Republic of Yemen

Ministry of Higher Education & Scientific Research

21 SEPTEMBER UNIVERSITY of MEDICALS & APPLIEED

SCIENCES

Faculty of Laboratory medicine..

Department of Hematology
Course Specification of **Advanced Hematology III (Hemostasis and Thrombosis)**
Course No. (03.13.313)
2022/2023

Prepared by:	Reviewed by:	Heamatolgy Department Charge D'affairs	Vice Dean for Quality affairs	Dean of College:
. Dr Fuad Balkam	- Dr. Abdulrahman Amer	Dr\Gamil Taher Abdul Mughni	Dr\Gamil Taher Abdul Mughni	- Associate Prof. Dr. Ebtesam Al-Zabedi

I. Course Identification and General Information:					
1	**Course Title:**	Advanced Hematology III (Hemostasis and Thrombosis)			
2	**Course Code & Number:**	(03.13.313)			
3	**Credit Hours:**	Theory Hours			
		Lecture	Exercise	Practical	Credit Hours
		2	0	2	3
4	**Study Level/ Semester at which this Course is offered:**	1st Level / 1st Semester			
5	**Pre –Requisite (if any):**	Advanced Hematology I, II			
6	**Co –Requisite (if any):**	None			
7	**Program (s) in which the Course is Offered:**	Master Degree Medical Diagnostic Hematology			
8	**Language of Teaching the Course:**	English			
9	**Study System:**	Semester			
10	**Mode of Delivery:**	Regular			
11	**Location of Teaching the Course:**	University Campus			
12	**Prepared by:**				
13	**Date of Approval:**	2022-2023			

II. Course Description:

This course provides an in-depth look at the pathophysiology, diagnosis, and management of hemostasis and thrombosis. Topics covered include the coagulation cascade, platelet function, fibrinolysis, and the role of genetics and acquired factors in hemostasis disorders. Students will also learn about the prevention and treatment of venous thromboembolism (VTE), arterial thromboembolism (ATE), and disseminated intravascular coagulation (DIC).

III. Alignment Course Intended Learning Outcomes with program outcomes

III. Course Intended Learning Outcomes (CILOs)		Referenced PILOs
A. Knowledge and Understanding: **Upon successful completion of the course, students will be able to:**		
a1	Understand the different types, causes, pathophysiology, signs, symptoms, laboratory diagnosis and treatment of coagulation disorders	A1
B. Intellectual Skills: **Upon successful completion of the course, students will be able to:**		
b1	Interpret the clinical and laboratory information to understand and classify different types coagulation disorders	B1
C. Professional and Practical Skills: **Upon successful completion of the course, students will be able to:**		
c1	Evaluate the latest research in the field of coagulation disorders disorders	C1
D. Transferable Skills: **Upon successful completion of the course, students will be able to:**		
d1	Communicate effectively about the diagnosis and management of hemostasis and thrombosis with patients, families, and other healthcare professionals	D1

IV. Alignment Course Intended Learning Outcomes with Teaching Strategies and Assessment methods :			
(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:			
	Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
a1	**Understand** the different types, causes, pathophysiology, signs, symptoms, laboratory diagnosis and teatment of coagulation disorders	Lecture	Exam
(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:			
	Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
b1	**Interpret** the clinical and laboratory information to understand and classify different types coagulation disorders.	Lecture	Exam
C Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:			
	Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
c1	**Evaluate** the latest research in the field of coagulation disorders disorders	Lecture Discussion Presentation	Exam Discussion Presentation
(D Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:			
	Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
d1	**Communicate** effectively about the diagnosis and management of hemostasis and thrombosis with patients, families, and other healthcare professionals	Lecture Discussion Presentation	Exam Discussion Presentation

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Course Content:

A – Theoretical Aspect:

Order	Units/Topics List	Sub Topics List	Number of Weeks	contact hours	Learning Outcomes
1	Overview of Hemostasis:	A review of the normal physiological processes involved in hemostasis, including platelet activation, coagulation cascade, fibrinolysis, and endothelial function.	2	4	a1,b1,c1,d1
2	Coagulation cascade, fibrinolysis, and endothelial function.	coagulation cascade, fibrinolysis, and endothelial function.	2	4	
3	Bleeding Disorders:	A detailed examination of the pathophysiology, clinical presentation, and diagnostic evaluation of bleeding disorders, including von Willebrand disease, hemophilia, and platelet function disorders.	2	4	a1,b1,c1,d1
4	Thrombotic Disorders:	A detailed examination of the pathophysiology, clinical presentation, and diagnostic evaluation of thrombotic disorders, including deep vein thrombosis, pulmonary embolism, arterial thrombosis, and thrombotic microangiopathies.	2	4	a1,b1,c1,d1
5	Anticoagulant Therapy	A discussion of the pharmacology, indications, and monitoring of anticoagulant medications, including heparin, warfarin, direct oral anticoagulants, and antiplatelet agents.	1	2	a1,b1,c1,d1
6		An overview of the pharmacology and indications for thrombolytic agents in the treatment of acute thrombotic events.	1	2	a1,b1,c1,d1
7	Laboratory Evaluation of Hemostasis and	An introduction to the laboratory techniques used to evaluate	2	4	a1,b1,c1,d1

	Thrombosis:	hemostasis and thrombosis, including bleeding time, clotting time, platelet function testing, coagulation factor assays, and genetic testing.			
8	Thrombophilia:	A discussion of the genetic and acquired risk factors for thrombosis, including factor V Leiden, prothrombin gene mutation, and antiphospholipid syndrome.	1	2	a1,b1,c1,d1
9	Hemostasis and Thrombosis in Special Populations:	A review of the unique considerations for hemostasis and thrombosis in pregnancy, pediatrics, and elderly populations.	1	2	a1,b1,c1,d1
10	Thrombosis Prevention Strategies:	A discussion of the strategies for preventing thrombotic events, including prophylaxis in surgical and medical settings, and lifestyle modifications.	1	2	a1,b1,c1,d1
11	Final exam		1	2	a1,b1,c1,d1
Number of Weeks /and Units Per Semester			16	**32**	

V. Teaching Strategies of the Course:	
1-	Lectures
2-	Practical session
3-	Self leaning
4-	Group discussion
	Case study analysis

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VI. Assessment Methods of the Course:	
No	**Assignment**
1	Written Exams (Essays) and Quizzes
2	Structured Oral Exams
4	Objective Structured Practical Exams (OSPE)
5	Student presentation
6	Case study analysis

VII. Assignments:

No.	Assignments	Week Due	Mark	Proportion of Final Assessment	Aligned CILOs (symbols)
2	Activity	Throughout the semester	10	10%	a1,b1,c1,d1
3	Practical Report	Throughout the semester	10	10 %	a1,b1,c1,d1
4	Practical exam	12	20	20%	a1,b1,c1,d1
5	Final Exam	14	60	60%	a1,b1,c1,d1
Total					

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X. Learning Resources:	
· Written in the following order: (Author - Year of publication – Title – Edition – Place of publication – Publisher).	
1- Required Textbook(s) (maximum two).	
1-	Basic Principles and Practice , 2017 by Ronald Hoffman et al.
2-	Williams Hematology ,2010 ,by Kenneth Kaushansky et al.
2- Essential References.	
1-	Clinical Hematology, Theory and Procedures by Mary Louise Turgeon 2018 .
2-	Clinical Principles and Applications by Bernadette F. Rodak and George A. Fritsma.
3- Electronic Materials and Web Sites *etc*.	
1-	The American Society of Hematology website www.hematology.org
2-	The National Institutes of Health, National Heart, Lung, and Blood Institute Website www.nhlbi.nih.gov
3-	The World Health Organization website (www.who.int)
4-	The Centers for Disease Control and Prevention website (www.cdc.gov)
5	Medscape Hematology (www.medscape.com/hematology)
6	Blood Journal (www.bloodjournal.org)

XI. *Course Policies:*	
1	**Class Attendance:** Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes.
2	**Tardiness:** -If the student dose not attend for more than 6 times, the student will be obligated to withdrew from the course
3	**Exam Attendance/Punctuality:** No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed.
4	**Assignments & Projects:** Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same.
5	**Cheating:** Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
6	**Forgery and Impersonation:** Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply.
7	**Other policies:** The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration