

## Course Syllabus of Hematology III

Faculty: Medicine and Health Sciences

Department: Health science

Program: Bachelor in Medical laboratory

### I. General information about the course instructor :

Name	Dr. Abdulrazzaq Othman Alagbare	Office Hours(3 Hours Weekly )					
Location & phone number	Sanaa 777182124	Sat	Sun	Mon	Tue	Wed	Thu
Email	Alagbariz@yahoo.com	1		1		1	

### II. General information about the course :

1. Course Title:	Hematology III					
2. Course Code and Number :	BML362					
3. Credit Hours	Lecture	Seminar/Tutorial	Practical	Training	Total	
	2		1		3	
4. Study Level and Semester:	3rd year /2 <sup>nd</sup> semester					
5. Pre-requisites :	BML353					
6. Co-requisites :	None					
7. Program in which the course is offered	Bachelor in Medical laboratory					
8. Teaching Language:	English					
9. Study System :	Semester based					
10. Prepared by :	Dr.Abdulrazzaq Othman Alagbare					
1. Approval date :						
2. Approved by:						

### III. Course Description :

This course provide to the medical laboratory students knowledge about coagulation process in health and disease. And to help him to understand the importance of coagulation disorders diagnosis to meet the patient's needs for good and professional diagnosis, the course serve to provide skills for their diagnosis. The teaching strategies will include lecture, practical training, self-learning, seminars and assignment. The students will be evaluated through case report assessment, written exam and practical exam.

### IV. Course aims:

At the end of this course the student will be able to

1. Explain the platelets structure ,function and disorders .
2. Listing the coagulation factors.
3. Understanding the role of coagulation factors function and disorders.
4. Define the clotting mechanism .
5. Carry out the most diagnostic blood coagulation tests.
6. Write meaningful blood report with correct units and normal value.

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معتد

APPROVED

المراجع :

د.محمد المريش

د. مجاهد نصار

الموصف :

د. عبدالرزاق الأشعري

عميد الكلية:  
د.عبد الله المخلفي

رئيس القسم:  
د.عبد الحبيب رديان

27.2.2019

## V. Course Intended Learning Outcomes (CILOs) :

After completion of this course student should be able to:

1. **Outline** the mechanism of normal hemostasis .
2. **Recognize** the primary and secondary hemostasis disorders which caused by the inherited and acquired disorders platelets and coagulation factors .
3. **Describe** the Lab tests for evaluation of the coagulation and platelets disorders, as BT, CT, PT/INR and PTT .
4. **Design** an appropriate diagnostic plan for evaluation of coagulopathy disorders .
5. **Formulate** different tests for coagulation and platelets disorders study.
6. Perform the routine tests for primary and secondary hemostasis tests (PC, BT,PT,PTT etc.) CBC, blood film, etc.
7. Apply the PTT and PT /INR , mixing study results for diagnostic and monitoring purposes.
8. Prepare the most important bone marrow slides to study production state of platelets, and uses the specimen for PCR tests in cases such as V Leiden etc.
9. Working in team (i.e., sharing presentations and discussions and solving problem).

## VI. Course Contents

First: Theoretical Aspect:

No.	Course Topics/Units	Sub-topics	No. of Weeks	Contact Hours
1	Introduction of hemostasis	• Platelets and vessels role and structure	1 <sup>st</sup>	2
2	Hemostasis and Coagulation factors	• Names, nature, role in the hemostasis	2 <sup>nd</sup>	2
3	Stages of hemostasis	• Primary hemostasis and platelets plug formation	3 <sup>rd</sup>	2
4	Secondary hemostasis (1)	• Coagulation cascade	4 <sup>th</sup>	2
5	Secondary hemostasis (2)	• Fibrinolytic mechanism	5 <sup>th</sup>	2
6	Laboratories Tests for Coagulation.	• Platelets count and tests • PT, PTT, TT, D-dimer tests	6 <sup>th</sup>	2
7	Midterm exam		7 <sup>th</sup>	2
8	Platelets disorders acquired	• Thrombocytopenia. TTP, Thromboasthenia etc.	8 <sup>th</sup>	2
9	Inherited Disorders of Coagulation	• Platelets disorders (thrombocytosis, thrombocytopenia,	9 <sup>th</sup>	2

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		thrombocytopenia)		
10	Acquired coagulation disorders	<ul style="list-style-type: none"> <li>DIC, ITP, VW diseases and diagnosis</li> <li>Vitamin K deficiency</li> <li>Liver disease</li> </ul>	10 <sup>th</sup>	2
11	Primary fibrinolysis disorders	<ul style="list-style-type: none"> <li>Hemophilia, A and B</li> <li>MIXING study ...</li> </ul>	11 <sup>th</sup>	2
12	Hypercoagulable states (Thrombophilia)	<ul style="list-style-type: none"> <li>autoimmune thrombophilia</li> <li>Antithrombin (ATIII) Deficiency</li> <li>Factor V Leiden etc</li> </ul>	12 <sup>th</sup>	2
13	Acquired Hypercoagulable States	<ul style="list-style-type: none"> <li>The antiphospholipid antibody syndrome</li> </ul>	13 <sup>th</sup>	2
14	General review		14 <sup>th</sup>	2
15	Final exam		15 <sup>th</sup>	2
Total number of weeks and hours			15	30

## Second: Practical/Tutorial/Clinical Aspects

No.	Practical/Tutorial/Clinical topics	No. of Weeks	Contact Hours
1	Reagents which used in practice coagulation and their Preparation <ul style="list-style-type: none"> <li>Trisodium citrate, 3.2% and Trisodium citrate, 3.8%</li> <li>Differences and uses , preparation</li> <li>Specimen collection and time <i>performed</i></li> </ul>	2 <sup>nd</sup>	2
2	<ul style="list-style-type: none"> <li>Thrombocyte number concentration (Microscopic examination)</li> </ul>	3 <sup>rd</sup>	2
3	<ul style="list-style-type: none"> <li>Bleeding time (BT)- Duke method</li> </ul>	4 <sup>th</sup>	2
4	<ul style="list-style-type: none"> <li>Preparation of Platelet poor plasma, uses</li> <li>Preparation of Platelet rich plasma, uses</li> </ul>	5 <sup>th</sup>	2
5	<ul style="list-style-type: none"> <li>Activated partial thromboplastin time (APTT) test</li> </ul>	6 <sup>th</sup>	2
6	<ul style="list-style-type: none"> <li>Prothrombin time (PT) test</li> <li>INR</li> </ul>	7 <sup>th</sup>	2
7	<ul style="list-style-type: none"> <li>Thrombin time (TT) test.</li> <li>Reptilase test</li> </ul>	8 <sup>th</sup>	2
8	<ul style="list-style-type: none"> <li>activated clotting time (ACT)</li> <li>D-Dimer test</li> </ul>	9 <sup>th</sup>	2
9	<ul style="list-style-type: none"> <li>Aged plasma</li> <li>Adsorbed plasma</li> <li>Pooled Plasma</li> </ul>	10 <sup>th</sup>	2
10	<ul style="list-style-type: none"> <li>Mixing study of PTT and PT</li> <li>D. dimer test</li> </ul>		2

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11	The modern instrument in coagulation disorders study <ul style="list-style-type: none"> <li>• Platelet Function Analyzer (PFA) - 100</li> <li>• Whole blood platelet aggregation</li> </ul>	12 <sup>th</sup>	2
12	Final practical exam	13 <sup>th</sup>	2
Total number of weeks and hours		12	24



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