

## Course E-Syllabus

1	Course title	Hematology
2	Course number	5501455
3	Credit hours	3
	Contact hours (theory, practical)	50
4	Prerequisites/corequisites	Biochemistry (5501321)
5	Program title	Biological Sciences (undergraduate)
6	Program code	5501
7	Awarding institution	University of Jordan
8	School	Science
9	Department	Marine Sciences
10	Level of course	4 <sup>th</sup>
11	Year of study and semester (s)	2019/2020 – Summer
12	Final Qualification	Pass
13	Other department (s) involved in teaching the course	None
14	Language of Instruction	English
15	Teaching methodology	<input checked="" type="checkbox"/> Blended <input type="checkbox"/> Online
16	Electronic platform(s)	<input type="checkbox"/> Moodle <input type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input checked="" type="checkbox"/> Zoom <input type="checkbox"/> Others.....
17	Date of production/revision	26/6/2020

### 18 Course Coordinator:

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### 19 Other instructors:

Name:  
Office number:  
Phone number:  
Email:

Name:  
Office number:  
Phone number:  
Email:

## 20 Course Description:

As stated in the approved study plan.

**The course provides the basic knowledge to give the student a broad understanding of the components of circulatory system and their abnormalities. Topics include: nomenclature, hematopoiesis, RBCs and hemoglobin, WBCs, hemostasis and blood transfusion. It also provides basic concepts of hematological abnormalities and malignancies. In addition, the course provides basic practical skills required for laboratory work.**

## 21 Course aims and outcomes:

A- Aims:

- **Distinguish the major components of the reticuloendothelial system and describe their functions in health and disease.**
- **Explain the concepts of physiological process in the reticuloendothelial system and conceptualize their interaction.**
- **Apply aspects of hematology to understand the mechanisms of haematological disorders.**
- **Differentiate the haematological tests and their applications in research and disease diagnosis.**
- **Define the principles of hematological tests and their application.**
- **Perform haematological tests in healthy and patient individuals.**

B- Intended Learning Outcomes (ILOs):

Upon successful completion of this course, students will be able to:

- 1.1 Recall the key components of the reticuloendothelial system, their properties and functions.**
- 1.2 Outline the physiological process in the reticuloendothelial system and their regulation.**
- 1.3 Recognize the haematological investigations.**
- 2.1 Explain the cellular and/or molecular mechanisms of haematological abnormalities and disorders.**
- 3.1 Perform basic hematological sampling and tests.**
- 4.1 Show independent thinking and demonstrate self-esteem.**

## 22. Topic Outline and Schedule:

Week	Lecture	Topic	Teaching Methods*/platform	Evaluation Methods**	References
1	1	Principles of hematology: overview	Synchronous lecturing	Exam	PowerPoint slides and Textbook
	1.2	Principles of hematology: overview	Synchronous lecturing, Brainstorming	Exam	Textbook
	1.3	Principles of hematology: overview	Synchronous lecturing	Exam, Classroom participation	Textbook
	1.4	Principles of hematology: overview	Synchronous lecturing, Problem solving	Exam, Classroom participation	Textbook

	1.5	<b>Practical: Biosafety</b>	<b>Synchronous lecturing, Brainstorming</b>	<b>Exam, Classroom participation</b>	<b>Textbook</b>
2	2.1	<b>RBCs: Structure and function</b>	<b>Synchronous lecturing</b>	<b>Homework, Exam</b>	<b>Textbook</b>
	2.2	<b>RBCs: Structure and function</b>	<b>Synchronous lecturing, Brainstorming</b>	<b>Homework, Exam</b>	<b>Textbook</b>
	2.3	<b>RBCs: Structure and function</b>	<b>Synchronous lecturing</b>	<b>Homework, Classroom participation Exam</b>	<b>Textbook</b>
	2.4	<b>RBCs: Structure and function</b>	<b>Synchronous lecturing, Problem solving</b>	<b>Homework, Classroom participation Exam</b>	<b>Textbook</b>
	2.5	<b>Practical: Blood collection and preservation</b>	<b>Synchronous lecturing, Lab work</b>	<b>Report, Exam</b>	<b>PowerPoint slides</b>
3	3.1	<b>Hemoglobin: structure and metabolism</b>	<b>Synchronous lecturing</b>	<b>Homework, Exam</b>	<b>Textbook</b>
	3.2	<b>Hemoglobin: structure and metabolism</b>	<b>Synchronous lecturing, Brainstorming</b>	<b>Homework, Exam</b>	<b>Textbook</b>
	3.3	<b>Hemoglobin: structure and metabolism</b>	<b>Synchronous lecturing</b>	<b>Homework, Classroom participation Exam</b>	<b>Textbook</b>
	3.4	<b>Hemoglobin: structure and metabolism</b>	<b>Synchronous lecturing, Problem solving</b>	<b>Homework, Classroom participation Exam</b>	<b>Textbook</b>
	3.5	<b>Practical: Hemoglobin concentration</b>	<b>Synchronous lecturing, Lab work</b>	<b>Report, Exam</b>	<b>PowerPoint slides and Practical Manual</b>
4	4.1	<b>RBCs disorders</b>	<b>Synchronous lecturing</b>	<b>Homework, Exam</b>	<b>Textbook</b>
	4.2	<b>RBCs disorders</b>	<b>Synchronous lecturing, Brainstorming</b>	<b>Homework, Exam</b>	<b>Textbook</b>
	4.3	<b>RBCs disorders</b>	<b>Synchronous lecturing</b>	<b>Homework, Classroom participation Exam</b>	<b>Textbook</b>
	4.4	<b>RBCs disorders</b>	<b>Synchronous lecturing, Problem solving</b>	<b>Homework, Classroom participation Exam</b>	<b>Textbook</b>
	4.5	<b>Practical: RBCs</b>	<b>Synchronous</b>	<b>Report, Exam</b>	<b>PowerPoint</b>

		<b>count</b>	<b>lecturing, Lab work</b>		<b>slides and Practical Manual</b>
5	5.1	<b>WBCs: structure and function</b>	<b>Synchronous lecturing</b>	<b>Homework, Exam</b>	<b>Textbook</b>
	5.2	<b>WBCs: structure and function</b>	<b>Synchronous lecturing, Brainstorming</b>	<b>Homework, Exam</b>	<b>Textbook</b>
	5.3	<b>WBCs: structure and function</b>	<b>Synchronous lecturing</b>	<b>Homework, Classroom participation Exam</b>	<b>Textbook</b>
	5.4	<b>WBCs: structure and function</b>	<b>Synchronous lecturing, Problem solving</b>	<b>Homework, Classroom participation Exam</b>	<b>Textbook</b>
	5.5	<b>Practical: WBCs count</b>	<b>Synchronous lecturing, Lab work</b>	<b>Report, Exam</b>	<b>PowerPoint slides and Practical Manual</b>
6	6.1	<b>WBCs: structure and function</b>	<b>Synchronous lecturing</b>	<b>Homework, Exam</b>	<b>Textbook</b>
	6.2	<b>WBCs: structure and function</b>	<b>Synchronous lecturing, Brainstorming</b>	<b>Homework, Exam</b>	<b>Textbook</b>
	6.3	<b>WBCs: structure and function</b>	<b>Synchronous lecturing</b>	<b>Homework, Classroom participation Exam</b>	<b>Textbook</b>
	6.4	<b>WBCs: structure and function</b>	<b>Synchronous lecturing, Problem solving</b>	<b>Homework, Classroom participation Exam</b>	<b>Textbook</b>
	6.5	<b>Practical: RBCs sedimentation</b>	<b>Synchronous lecturing, Lab work</b>	<b>Report, Exam</b>	<b>PowerPoint slides and Practical Manual</b>
7	7.1	<b>Hematological malignancies</b>	<b>Synchronous lecturing</b>	<b>Homework, Exam</b>	<b>Textbook</b>
	7.2	<b>Hematological malignancies</b>	<b>Synchronous lecturing, Brainstorming</b>	<b>Homework, Exam</b>	<b>Textbook</b>
	7.3	<b>Hematological malignancies</b>	<b>Synchronous lecturing</b>	<b>Homework, Classroom participation Exam</b>	<b>Textbook</b>
	7.4	<b>Hematological malignancies</b>	<b>Synchronous lecturing, Problem solving</b>	<b>Homework, Classroom participation Exam</b>	<b>Textbook</b>
	7.5	<b>Practical: RBCs sedimentation</b>	<b>Synchronous lecturing,</b>	<b>Report, Exam</b>	<b>PowerPoint slides and</b>

			<b>Lab work</b>		<b>Practical Manual</b>
8	8.1	<b>Hemostasis</b>	<b>Synchronous lecturing</b>	<b>Homework, Exam</b>	<b>Textbook</b>
	8.2	<b>Hemostasis</b>	<b>Synchronous lecturing, Brainstorming</b>	<b>Homework, Exam</b>	<b>Textbook</b>
	8.3	<b>Hemostasis</b>	<b>Synchronous lecturing</b>	<b>Homework, Classroom participation Exam</b>	<b>Textbook</b>
	8.4	<b>Hemostasis</b>	<b>Synchronous lecturing, Problem solving</b>	<b>Homework, Classroom participation Exam</b>	<b>Textbook</b>
	8.5	<b>Practical: Revision</b>	<b>Synchronous lecturing</b>	<b>Exam</b>	<b>PowerPoint slides and Practical Manual</b>

- Teaching methods include: Synchronous lecturing/meeting; Asynchronous lecturing/meeting
- Evaluation methods include: Homework, Quiz, Exam, pre-lab quiz...etc

### 23 Evaluation Methods:

<b>Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:</b>				
<b>Evaluation Activity</b>	<b>Mark</b>	<b>Topic(s)</b>	<b>Period (Week)</b>	<b>Platform</b>
<b>Quiz-I</b>	<b>10</b>	<b>Hemoglobin: structure and metabolism,</b>	<b>3</b>	<b>E-learning</b>
<b>Assignments and/or Presentation</b>	<b>25</b>	<b>RBCs structure, RBCs Disorders, Hematological malignancies, Hemostasis</b>	<b>All through</b>	<b>E-mail</b>
<b>Report</b>	<b>10</b>	<b>Practical: Blood collection, Hemoglobin Concentration, RBCs count, WBCs count</b>	<b>8</b>	<b>E-mail</b>
<b>Classroom Participation</b>	<b>5</b>	<b>All through (Restricted to lectures attendees)</b>	<b>All through</b>	<b>E-learning</b>
<b>Final Exam</b>	<b>50</b>	<b>All topics</b>	<b>8</b>	<b>E-learning</b>

**24 Course Requirements (e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc):**

<b>Computer with internet connection</b>
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## 25 Course Policies:

A- Attendance policies: Attendance is mandatory  
**Maximum absence allowed with excuses is 7.**

B- Absences from exams and submitting assignments on time:  
**Being on time is mandatory. However, some individual exceptions can be considered.**

C- Health and safety procedures:  
**During lab work, wearing lab coat, gloves and masks is a must.**

D- Honesty policy regarding cheating, plagiarism, misbehavior:  
**Please refer to Student Handbook; pages 63-71.**

E- Grading policy:  
**Please refer to item number 23.**

F- Available university services that support achievement in the course:  
**Instructor will discuss and answer additional questions on a Facebook page.**

## 26 References:

A- Required book(s), assigned reading and audio-visuals:

**Hematology and Immunology – Crash Course (4<sup>th</sup> edition), Gargani Yousef et al. 2012**

B- Recommended books, materials and media:

**PowerPoint slides**

## 27 Additional information:

**None**

Name of Course Coordinator: **Dr. Hamza Hanieh** Signature: ----- Date: 26/6/2020

Head of Curriculum Committee/Department: ----- Signature: -----

Head of Department: **Dr. Zeinab H. Arabeyyat** . Signature: **Dr. Zeinab H. Arabeyyat**

Head of Curriculum Committee/Faculty: ----- Signature: -----

Dean: **Prof. Riaydh Manasrah** Signature: -----