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|  | **Mutah University**  **Detailed Syllabus Form** | Description: C:\Users\lamasat.lamasat-PC\Pictures\Picture1.png |

**First :** Course Information**:**

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| --- | --- |
| * Course Number: 0308343 | * Course Title: Hematology I |
| * Credit Hours: 3 | * College: Science |
| * Pre-requisite: | * Department: Medical Laboratory Sciences |
| * Instructor: Ahmed Obeidat | * Semester & Academic Year: |
| * the time of the lecture: | * Office Hours: |

**Second :** General Course Description

Course will provide students with a background in blood and its components, and specifically the formed cellular elements including erythrocytes, leukocytes and thrombocytes. A detailed description of these elements will be provided with a major emphasis on their generation, structure, function and metabolism. A portion of the course will be focus on certain laboratory procedures for enumeration, examination, and identification of blood cellular components.

**Third :** Course Objectives

The major goal of this course is to provide students with basic knowledge in hematological science as one of the core courses in studying medical laboratory sciences and as a stepping stone for the diagnostic hematopathology course where blood and bone marrow disorders will be discussed. Therefore, upon completion of this course, the student will be able…

* To understand the basic concepts and terminology in hematology.
* To understand the principles of blood cells generation (hematopoiesis) and the regulatory mechanisms involved in this process.
* To understand the structure and function of hemoglobin and the ontogeny mechanism involved in its production.
* To define cellular components of blood in regard to their structure, function, and metabolism.
* To become familiar with the technical laboratory procedures for the enumeration and examination of blood cells.
* To be able to interpret the laboratory findings and to correlate them to the diagnostic aspects of blood disorders.
* To understand the mechanism of hemostasis and the regulatory mechanisms involved in this process.

**Fourth:** Expected Learning Outcomes

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

1. Explain hematopoiesis process, hematopoiesis ontogeny and its regulatory mechanisms
2. Explain hemoglobin structure, hemoglobin ontogeny and its regulatory mechanisms
3. Describe the structure, function, metabolism and the life cycle of cellular blood elements: erythrocytes, leukocytes and thrombocytes
4. Experience and be familiar with the routine and specialized laboratory techniques for the evaluation of blood cells
5. Define hemostatic system as an amazing system playing an important role in maintain body hemostasis and understand its regulation

**Fifth :** Course Plan Distribution & Learning Resources

|  |  |  |
| --- | --- | --- |
| **Learning Resources** | **Topics to be Covered** | **Week**  **No.** |
| **Chapter 1, Handouts** | **Introduction: Blood and it’s components** |  |
| **Chapter 7** | **Hematopoiesis** |  |
| **Chapter 9** | **Erythrocytes (I): Structure and Function** |  |
| **Chapter 10** | **Erythrocytes (II): Hemoglobin** |  |
| **Chapter 11** | **Erythrocytes (III): Iron metabolism** |  |
| **Chapter 8** | **Erythrocytes (IV): Erythrocytes production and destruction** |  |
| **Chapter 14** | **Erythrocytes (V): CBC analysis and red cell indices** |  |
| **Chapter 12** | **Leukocytes (I): Classification, Structure, and Function** |  |
| **Chapter 12** | **Leukocytes (II): Leukopoiesis** |  |
| **Chapter 29** | **Leukocytes (III): Nonmalignant Leukocytes Disorders** |  |
| **Chapter 13** | **Hemostasis (I): Megakaryopoiesis** |  |
| **Chapter 13** | **Hemostasis (II): Platelets Structure and Function** |  |
| **Chapter 37** | **Hemostasis (III): Coagulation System** |  |
| **Chapter 37** | **Hemostasis (III): Normal Hemostasis and Coagulation** |  |
| **Chapter 42** | **Laboratory Evaluation of Hemostasis** |  |

**Sixth :** Teaching Strategies and Methods

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| --- | --- |
| **Teaching Strategies and Methods** | No |
| **Lectures: Students are expected to take notes, records, or absorb information.** | **1** |
| **Demonstration: Lectures will includes multimedia presentations, activities, and demonstrations** | **2** |
| **The following Teaching methods will be used in class room:**   1. **Lectures** 2. **Question and Answer** 3. **Discussions** 4. **Multimedia** | **3** |

**Seventh :** Methods of Assessment

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| --- | --- | --- | --- |
| **Proportion of Final Evaluation** | **Evaluation Methods of** | **Week & Date** | **No.** |
| **25%** | **First Exam** | **Sixth Week** | **1.** |
| **25%** | **Second Exam** | **Eleventh Week** | **2.** |
| **50%** | **Final Exam** | **Fifteenth Week** | **3.** |
|  |  |  | **4.** |
|  |  |  | **5.** |
|  |  |  | **6.** |
| **(100%)** |  | **Total** | |

**Eighth :** Required Textbooks

**- Primary Textbook:**

* **RODAK'S Hematology: Clinical principles and applications.**
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**-** **Secondary References**

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**Ninth :** General Instructions

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| **Additional Notes, Office hours, Incomplete Exams, Reports, Papers, …etc** | **No** |
| **Office Hours:** |  |
| **Incomplete Exam:** |  |
| **Students are required to attend all the theoretical sessions of the course as scheduled** |  |
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