

American University of Beirut
Faculty of Health Sciences
Medical Laboratory Technology Program

LABM 230

(Clinical Hematology)

Spring Semester, AY/2019-20

Name	Rolla Al-Khatib	Course Credits	4 credits
Office Hours:	WF. 2:00 p.m. – 3:00 p.m. or by appointment	Meeting Location	Van Dyck, Rm 101
Office Location:	Van Dyck, Rm 322	Meeting Time	MW :3:15-4:30
Extension	4696	Prerequisites	MLSP 201 & 202
E-mail	ra03@aub.edu.lb		

Course Description:

This course is designed to teach students the morphologic classification of anemia and to compare and contrast the laboratory diagnosis of the different anemias. By the end of the course, students will be able to differentiate between the different types of anemia of abnormal iron metabolism and between qualitative and quantitative changes of abnormal globin chain synthesis. The course also covers lymphoproliferative disorders and plasma cell disorders with a special emphasis on diagnosis.

Learning Objectives:

Upon completion of this course, students should be able to:

1. Explain the basic laboratory tools needed for the diagnosis of anemia.
2. Use a morphological classification to differentiate between the different types of anemia.
3. Differentiate between the different types of anemias of abnormal iron metabolism.
4. Identify characteristics, clinical and laboratory findings in various hemoglobinopathies.
5. Compare and contrast between extravascular and intravascular hemolytic anemias.
6. Differentiate between the different types of lymphoproliferative disorders.
7. Describe multiple myeloma and discuss the differential diagnosis and diagnostic work up.

COURSE CONTENTS

1. **Causes of Anemia**
2. **Morphologic classification of anemias**
3. **Diagnostic tools used in the classification of anemias**
4. **Anemias of decreased hemoglobin synthesis**
 - A. **Anemias of abnormal iron metabolism**
 - * Fe deficiency anemia (*Review*)
 - * Anemia of chronic diseases
 - * Sideroblastic anemias
 - a) Hereditary sideroblastic anemias
 - b) Acquired sideroblastic anemias
 - 1- IASA (RARS)
 - 2- Reversible conditions caused by certain drugs, alcohol...
 - 3- Lead intoxication

B. Hemoglobinopathies

I. Quantitative abnormalities

- * β thalassaemia (*Review*)
- * α thalassaemia
- * $\delta\beta$ thalassaemia
- * Hereditary Persistence of Fetal Hemoglobin (HPFH)
- * HbS- β thalassaemia

II. Qualitative abnormalities

- * HbS disease (*Review*)
- * HbC disease
- * HbD disease
- * HbE disease
- * Hb Arab O disease

5. Hemolytic anemia

- A. Extravascular Hemolysis
- B. Intravascular Hemolysis

6. Leukemias

- * Chronic lymphocytic leukemia (CLL)
- * Multiple Myeloma
- * Hairy cell leukemia

EVALUATION

Written Exam:	60%	(meets objectives 3,4,5,6 &7)
Practical Exam:	20%	(meets objectives 2, 3 & 4)
Practical Training Evaluation	20%	(meets objectives 1 & 2)

REFERENCES

- * **Moodle Course**
- * *Clinical Laboratory Hematology*
by [Shirlyn B. McKenzie Ph.D. CLS \(NCA\)](#) (Author), [Lynne Williams](#) (Author)
- * **Interesting Hematology Links**
www.hematologyatlas.com

COURSE POLICY

1. **Attendance:** you are expected to attend all classes and participate in class activities. If you miss a class, it is your responsibility to make up for the material missed, and inquire about any announcements made. If you miss more than one fifth of class sessions, you are subject to withdrawing from the course with a-w-grade. *Please refer to the AUB catalogue.*
2. **Exams:** Examinations must be taken as scheduled. Make up exams will not be given unless a valid excuse is given. Only authorized medical reports will be accepted.
3. **Withdrawal date:** Please observe withdrawal dates set by the Registrar's Office.
4. **Cheating and Plagiarism:** Cheating and plagiarism will not be tolerated. Review the Student Code of Conduct in your handbook and familiarize yourself with definitions and penalties. If you're in doubt about what constitutes plagiarism, ask your instructor because it is your responsibility to know. The American University of Beirut has a strict anti-cheating policy. Penalties include failing marks on the assignment in question, suspension or expulsion from University and a permanent mention of the disciplinary action in the student's records
5. **Special needs:** 'AUB strives to make learning experiences as accessible as possible. If you anticipate or experience academic barriers due to a disability (including mental health, chronic or temporary medical conditions), please inform me immediately so that we can privately discuss options. In order to help establish reasonable accommodations and facilitate a smooth accommodations process, you are encouraged to contact the Accessible Education Office: accessibility@aub.edu.lb; +961-1-350000, x3246; West Hall, 314'.
6. **Non-Discrimination – Title IX – AUB:** AUB is committed to facilitating a campus free of all forms of discrimination including sex/gender-based harassment prohibited by Title IX. The University's non-discrimination policy applies to, and protects, all students, faculty, and staff. If you think you have experienced discrimination or harassment, including sexual misconduct, we encourage you to tell someone promptly. If you speak to a faculty or staff member about an issue such as harassment, sexual violence, or discrimination, the information will be kept as private as possible, however, faculty and designated staff are required to bring it to the attention of the University's Title IX Coordinator. Faculty can refer you to fully confidential resources, and you can find information and contacts at www.aub.edu.lb/titleix. **To report an incident**, contact the University's Title IX Coordinator Mitra Tauk at 01-350000 ext. 2514, or titleix@aub.edu.lb. An anonymous report may be submitted online via Ethics Point at www.aub.ethicspoint.com.