

*American University of Beirut*  
Faculty of Medicine  
Department of Pathology and Laboratory Medicine  
**LABM 201**  
( *Clinical Chemistry I* )

Fall Semester AY/2023-2024

<i>Name</i>	Dr. Rose Daher Dr. Nada Assaf	Course Credits:	2
Office Hours:		Meeting location:	Van Dyck Auditorium
Office	Hospital, 3 <sup>rd</sup> Floor	Meeting Time:	MON: 03:00-03:50 pm
Location:	PLM; Phase II		FRI: 12:00-12:50 pm
Extension	Dr. Daher - 5223 Dr. Assaf - 5204		
E-mail	<a href="mailto:rd02@aub.edu.lb">rd02@aub.edu.lb</a> <a href="mailto:na167@aub.edu.lb">na167@aub.edu.lb</a>		

**Course Description:**

Clinical Chemistry courses I (LABM201) and II (LABM202) are designed to acquaint students with fundamentals of clinical chemistry, including basic physiological and biochemical processes, instrumentation, principles of analytical procedures, and methods used for reliable determination of clinical analytes. Introduction to routine laboratory instrumentation is covered in LABM201, where it is allocated almost half of the course time. Correlation of laboratory results with clinical manifestation is also an integral part of these courses. These courses will cover all aspects of routine clinical chemistry such as carbohydrates, acid-base balance, blood gases, nitrogen metabolites, proteins, enzymes, lipids and lipoproteins, etc... More advanced topics as well as techniques in Clinical Chemistry are covered later in the course of LABM202.

**Specific Learning Objectives (LOs):**

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

LO1. Comprehend the principles of analytical techniques used in Clinical Chemistry laboratory.

LO2. Know the procedures used to set-up, assess, and maintain the quality of laboratory analysis.

LO3. Be aware of the physiological and pathological processes that are affecting biochemical investigations done on samples from patients.

LO4. Realize the use of the results of Clinical Chemistry analysis in the diagnosis and management of common medical disorders.

<u>Date</u>			<u>Time</u>	<u>Subject</u>	<u>Instructor</u>
<b>August</b>	M	28	3 pm	Introduction to Course	R. Daher
<b>September</b>	Fr	01	12 pm	Carbohydrates metabolism	N. Assaf
	M	04	3 pm	Carbohydrates metabolism	N. Assaf
	Fr	08	12 pm	Carbohydrates metabolism	N. Assaf
	M	11	3 pm	Carbohydrates metabolism problems	N. Assaf
	Fr	15	12 pm	Water and Sodium	N. Assaf
	M	18	3 pm	Water and Sodium	N. Assaf
	Fr	22	12 pm	Potassium	N. Assaf
	M	25	3 pm	Chloride and Anion Gap	N. Assaf
	Fr	29	12 pm	Acid Base Balance	N. Assaf
<b>October</b>	M	02	3 pm	Acid Base Balance	N. Assaf
	Fr	06	12 pm	Acid Base Balance	N. Assaf
	M	09	3 pm	Review session	N. Assaf
	Fr	13	12 pm	<b>Quiz #1</b>	<b>N. Assaf</b>
	M	16	3 pm	Buffers	R. Daher
	Fr	20	12 pm	Buffers	R. Daher
				<b>Instrumentation</b>	
	M	23	3 pm	Spectrophotometry	R. Daher
	Fr	27	12 pm	Spectrophotometry	R. Daher
	M	30	3 pm	Spectrophotometry	R. Daher
<b>November</b>	Fr	03	12 pm	Problems	R. Daher
	M	06	3 pm	Atomic Absorption and Emission	R. Daher
	Fr	10	12 pm	Turbidimetry and Nephelometry	R. Daher
	M	13	3 pm	Fluorometry	R. Daher
	Fr	17	12 pm	Electrochemistry	R. Daher
	M	20	3 pm	Electrochemistry	R. Daher
	Fr	24	12 pm	Electrochemical Techniques	R. Daher
	M	27	3 pm	Review session	R. Daher
<b>December</b>	Fr	01		<b>Reading period</b>	
	<b>T.B.A.</b>	<b>T.B.A.</b>		<b>Quiz #2</b>	<b>R. Daher</b>

### Evaluation method: two quizzes

Description of Assessment methods, Due Dates and Corresponding Learning Objectives

Assessment method	Date (tentative)	LOs covered	Grade percentage
<i>Quiz I</i>	13/10/2023	LO2, LO3, LO4	48% (12/25)
Covers the lectures of Dr. Nada Assaf.			
<i>Quiz II</i>	End of semester T.B.A.	LO1, LO2	52% (13/25)
Covers the lectures of Dr. Rose Daher.			

Proportion of each quiz in the final grade might be subject to change.

You must always have your **own ruler and scientific calculator** during the **exams**.

### Recommended References / Books:

- Moodle course material and recordings of the lectures through Webex will be available and uploaded for students' review.
- Clinical Chemistry: Techniques, Principles, Correlations. Ninth Edition. Bishop, Fody, Siclen, Mistler, Moy. Jones & Bartlett Learning. ISBN 978-1-2842-3886-0, 2023.
- Any other clinical chemistry book available in the Library like: Teitz, Kaplan, Bishop

### Course Policies:

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. **Attendance will be taken during each session, and 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 and **mode of delivery will be announced later**. Make up exams will not be given unless a valid excuse is provided. Only authorized medical reports will be accepted.
3. **Withdrawal date:** Please observe withdrawal dates set by the Registrar's Office.

## **AUB Policies and other General Notes:**

### **Academic integrity:**

Education is demanding and you need to properly manage your time. Do not hesitate to use the resources around you but do not cut corners. Cheating and plagiarism will not be tolerated. Review the Student Code of Conduct and familiarize yourself with definitions and penalties. Cheating might earn you a failing mark on the assignment, at the very least. You might fail the course in which you cheated, be warned, suspended or expelled from University and a permanent mention of the disciplinary action might be made in your student records. If you're in doubt about what constitutes plagiarism, ask your instructor because it is *your* responsibility to know. Remember that the American University of Beirut has a strict anti-cheating and anti-plagiarism policy. Do not become a lesson to others. For further information, kindly visit AUB's Policies and Procedures or <http://pnp.aub.edu.lb/general/conductcode>.

### **Students with Disabilities:**

If you have a disability, for which you may request accommodation in AUB classes, consult the website for more information and make arrangements with the Coordinator ([http://www.aub.edu.lb/sao/Pages/Students\\_20with\\_20Special\\_20Needs.aspx](http://www.aub.edu.lb/sao/Pages/Students_20with_20Special_20Needs.aspx)). Also, please see the instructor of this course privately in regard to possible support services that can be provided to you.

### **Accessible Education Office (AEO):**

The Accessible Education Office (AEO) coordinates academic accommodations and services for all eligible AUB students with disabilities (such as ADHD, learning difficulties, mental health conditions, chronic or temporary medical conditions, and others). If you have a disability for which you wish to request accommodations at the department, faculty or university level, please contact AEO as soon as possible. Once you register with our office, we will assist you in receiving appropriate accommodations and will liaise with your instructors and any related entity to best support your needs. AEO is located in West Hall room 314, and can be reached by phone at 1-350000 ext. 3246 or by email: [accessibility@aub.edu.lb](mailto:accessibility@aub.edu.lb). Information about our services can be found at: <https://www.aub.edu.lb/SAO/Pages/Accessible-Education.aspx>

### **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](http://www.aub.edu.lb/titleix). To

report an incident, contact the University's Title IX Coordinator Trudi Hodges at 01-350000 ext. 2514, or [titleix@aub.edu.lb](mailto:titleix@aub.edu.lb). An anonymous report may be submitted online via EthicsPoint at [www.aub.ethicspoint.com](http://www.aub.ethicspoint.com).