



Jordan University of Science and Technology
Faculty of Applied Medical Sciences
Allied Medical Sciences Department

LM312 Clinical Biochemistry (2) - JNQF Level: 7

Second Semester 2023-2024

Course Catalog

2 Credit Hours. This course discusses the general fundamentals and principles of clinical bio-analytical chemistry. It is a combined lectures and laboratory course covering methods of analysis, as well as the biochemical components of body fluids. Topics include assessment of liver, cardiac, bone, and renal, trace elements, vitamins, and tumor markers. The course includes case studies and special topics in clinical chemistry, such as therapeutic drug monitoring and toxicology.

Teaching Method: On Campus

Text Book

Title	Clinical Chemistry-Techniques, Principles, and Correlations
Author(s)	Michael L. Bishop, Edward P. Fody, Carleen Van Sclen, James March Mistler, Michelle Moy
Edition	9th Edition
Short Name	Ref #1
Other Information	Publication year: 2023

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #2	Tietz Fundamentals of Clinical Chemistry and Molecular Diagnostics	Nader Rifai	9th Edition	Publication year: 2023

Instructor

Name	Dr. REFAT NIMER
Office Location	-
Office Hours	
Email	rmnimer@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Sun, Thu : 12:30 - 13:30 Room: NB49

Tentative List of Topics Covered		
Weeks	Topic	References
Weeks 1, 2	Introduction and Renal Function	Handouts From Ref #1
Week 3	Cardiac Function	Handouts From Ref #1
Weeks 4, 5	Liver Function	Handouts From Ref #1
Week 6	Pancreatic Function	Handouts From Ref #1
Week 7	Calcium Homeostasis and Hormonal Regulation Disorders of Bone	Handouts From Ref #1
Week 8	Tumor markers	Handouts From Ref #1
Week 9	Trace elements	Handouts From Ref #1
Week 10	Vitamins	Handouts From Ref #1
Week 11	Body Fluid Analysis	Handouts From Ref #1
Week 12	Porphyryns and Porphyrias	Handouts From Ref #1
Week 13	Therapeutic Drug Monitoring	Handouts From Ref #1
Week 14	Toxicology	Handouts From Ref #1

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Understand the basic concepts of analytes in body fluids in terms of biochemistry, physiology, and pathology. [1SLO1] [1L7K1]	10%	
Discuss different organ disorders, their causes, and their diagnosis. [1SLO1] [1L7K1]	25%	
Compare the specificity and sensitivity of commonly used biochemical markers to assess organ functions. [1SLO2] [1L7S2]	5%	
Learn the principles of different methods for measuring analyte levels in body fluids and appropriate clinical samples regarding their types, collection, handling, transport, and storage to diagnose various organ disorders. [1SLO2] [1L7S2]	20%	
Evaluate the reliability of clinical chemistry results with consideration of the quality assurance and clinical significance of the ordered tests. [1SLO2] [1L7C2]	10%	
Interpret clinical chemistry results in the context of case studies and specific diseases, correlating abnormal values to potential disorders. [1SLO3] [1L7S1]	20%	

Understand the basic concepts related to special clinical chemistry, such as therapeutic drug monitoring and toxicology. [1SLO1] [1L7K1]	10%	
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Relationship to Program Student Outcomes (Out of 100%)											
SLO1	SLO2	SLO3	SLO4	SLO5	SLO6	MSLO1	MSLO2	MSLO3	MSLO4	MSLO5	MSLO6
45	35	20									

Relationship to NQF Outcomes (Out of 100%)			
L7K1	L7S1	L7S2	L7C2
45	20	25	10

Evaluation	
Assessment Tool	Weight
First Exam	30%
Second Exam	30%
Final Exam	40%

Policy	
Attendance and Absence	All absences will be entered electronically into the university site. If absence is more than 20%, the student will be banned from the course after electronic notification from the university through student e-mail (Please review university regulations for more details). Attending the lectures will significantly enhance your grade. The student is responsible for any information discussed in lecture sessions. It is imperative to attend all classes!
Statement on Professionalism	Professional behavior is expected of students at all times. Attitude and professional behavior are the minimum criteria for passing this class. Examples of unprofessional behavior include but are not limited to: missing classes, tardiness, lack of attention for a speaker, talking to others during lecture, leaving a lecture before its completion without prior authorization of the instructor, working on other class material during class, and sleeping during class.
Cheating	University regulations will be applied on cases of cheating and/or plagiarism.
Cell phone	The use of a cellular phone is prohibited in classrooms and during exams. The cellular phone must be switched off in class rooms and during exams.
Make-up Exam	Make-up exams are entitled to students who miss the exam with an accepted legal or medical excuse endorsed by the instructor within 24 hours after the scheduled exam (please review university regulations for more details).
Feedback	Concerns, complaints, questions, and feedback are appreciated and should be expressed to the course instructor in the first instance. You can contact your instructor using e-mail or during office hours.