

The University of Jordan

Faculty: Pharmacy

Department: Biopharmaceutics and Clinical Pharmacy

Program: Doctor of Pharmacy

Academic Year/ Semester: 2013/2014 Fall semester

Clinical Biochemistry- 1 (1203411)

Credit hours	2	Level	4th year	Pre-requisite	Pathophysiology 1203301
Coordinator/ Lecturer	Prof. Yasser Bustanji	Office Number	Deputy Dean Office	Office phone	23293
Coordinator/ Lecturer	Dr. Areej Assaf	Office Number	132	Office phone	23363
Course website	http://www2.ju.edu.jo/sites/Academic/areej_Assaf/Material/Forms/AllItems.aspx	E-mail	bustanji@ju.edu.jo areej_assaf@ju.edu.jo	Place	Faculty of Pharmacy Halls

Office hours					
Day/Time	Sunday	Monday	Tuesday	Wednesday	Thursday
Prof. Yasser Bustanji					
Dr. Areej Assaf	2-3	12-1	2-3		

Course Description

Introduction to clinical aspects of biochemical analysis. Utilization of laboratory findings in the diagnosis and treatment of diseases will be discussed

Learning Objectives

At the end of this course, the student is expected to be able to:

1. Understand what happens to the body's chemistry when affected by diseases.
2. Know how specimens are collected and processed.
3. Relate the changes in water and electrolytes balance, hydrogen ion homeostasis and blood gases, the kidney function tests, the liver function tests, the carbohydrate metabolism, the plasma proteins, lipids and lipoproteins, to diseases

Intended Learning Outcomes (ILOs):

Successful completion of the course should lead to the following outcomes:

Learning Outcomes :

A. Knowledge and understanding of:

- A1. Samples collection and processing.
- A2. Molecular basis of diseases.
- A3. Effects of abnormalities in structure and function of macromolecules.
- A4. Laboratory tests used in the diagnosis of diseases.

B. Intellectual skills (cognitive and analytical):

- B1. Explain molecular basis of diseases.
- B2. Relate the signs and symptoms to the molecular basis of diseases.

C. Subject specific skills

D. Transferable Skills

- D1. Select appropriate test to diagnose disorders of metabolism.
- D2. Select the tests to assess the abnormal changes in macromolecules in a disease state.
- D3. Interpret laboratory findings performed in clinical practice

ILOs: Learning and Evaluation Methods

ILO/s	Learning Methods	Evaluation Methods
A. Knowledge and Understanding	Lectures and Case Discussions,	Exam, Quizes
B. Intellectual skills (cognitive and analytical)		
C. Transferable Skills:		

Learning Methodology

**Lectures and Discussions,
Video simulations and animations.**

Evaluation

Evaluation	Point %	Date
Midterm Exam	30	8th week
Assignments	10	3rd week
Quiz	10	11th week
Final Exam	50	16th week

Course Contents

Content	Ref.	Week	ILO/s
<ul style="list-style-type: none"> Introduction and specimen collection Blood and urine collection, factors affecting analyte determinations.	1-4	1st	A
<ul style="list-style-type: none"> Reference range Reference range and biological factors affecting the interpretation of results.	1-4	1st & 2nd	A
<ul style="list-style-type: none"> Water, electrolytes and acid-base disturbances Water, sodium and potassium balance, buffers, metabolic and respiratory acidosis and alkalosis.	1-4	2nd -4th	A&B&D
<ul style="list-style-type: none"> Investigation of renal function Acute and chronic renal failure, renal calculi.	1-4	5th-7th	A&B&D
<ul style="list-style-type: none"> Calcium metabolism Calcium regulation, hypo- and hypercalcemia.	1-4	8th-	A&B&D
<ul style="list-style-type: none"> Lipid metabolism Lipoproteins metabolism, lipid profile and lipid disorder	1-4	9th-10th	A&B&D
<ul style="list-style-type: none"> Amino acids and plasma proteins Aminoacidurea, albumin and immunoglobulins.	1-4	11th & 12th	A&B&D
<ul style="list-style-type: none"> Liver function and diseases Liver function tests and their relations to liver diseases	1-4	12th - 14th	A&B&D
<ul style="list-style-type: none"> Haematology Hemoglobin and hemoglobinopathies.	1-4	15th	A&B&D
<ul style="list-style-type: none"> Final exam 		16th	

Main Reference/s:

References:

1. An Illustrated Colour Text in Clinical Biochemistry
1st edition, Gaw A et al.

References:

2. Clinical Chemistry.
3rd edition, Marshall W.J., 1997.
3. Tietz Fundamental of Clinical Chemistry
4th edition, edited by Burtis C.A. and Ashwood E.R., 1996.
4. Clinical Chemistry in Diagnosis and Treatment
6th edition, Mayne P.D., 1998