

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
CLINICAL BIOCHEMISTRY	ECFY1146330	Fall Semester	2+0	2	6
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	Turkish				
Course Level	Second Cycle (Master's Degree)				
Course Type	Elective				
Course Coordinator	Assist.Prof. Rashida Muhammad UMAR				
Name of Lecturer(s)	Assist.Prof. Rashida Muhammad UMAR				
Assistant(s)					
Aim	To describe and teach all the chemical reactions in the cell at the molecular level, to understand the changes that occur in these reactions in pathological situations, to identify the biochemical parameters used in the diagnosis, treatment and prevention of diseases.				
Course Content	This course contains; 1-General concepts in biochemistry,2- Energy metabolisms,3- Energy metabolisms,4. How does the clinical biochemistry laboratory work?,5-Interpretation of carbohydrate metabolism and related tests,6-Liver function tests,7-Kidney function tests,8-Atherosclerosis and lipid metabolism,9-Anemiler, laboratory analysis and interpretation,10-Cardiac markers and clinical approach,11. Hormones and approach to clinical diagnosis,12-Vitamins,13-Works and ultraeser elements,14- Clinical interpretation of biochemical tests with pharmacist perspective.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
At the end of this course the student;					
1-It can compare the structure of macro and micro molecules important for the organism.			10, 11, 16, 19, 6, 9	A, D, E	
1.1.Explain carbohydrates, lipids, proteins structures, digestion and absorption.			10, 11, 16, 19, 6, 9	A, D, E	
1.2.Compares and classifies micro and micro minerals.			10, 11, 16, 19, 6, 9	A, D, E	
2-Question the functions of macromolecules in organism.			10, 11, 16, 19, 6, 9	A, D, E	
2.2.Inquires the importance of micro and micro minerals and vitamins in metabolism.			10, 11, 16, 19, 6, 9	A, D, E	
2.3.Compares the functions of hormone, enzyme, carbohydrate, protein and fat in metabolism.			10, 11, 16, 19, 6, 9	A, D, E	
3-It can question the laboratory results of normal and disease state of macro and micro molecules.			10, 11, 16, 19, 6, 9	A, D, E	
4-Recognise the clinical biochemistry laboratory.			10, 11, 16, 19, 6, 9	A, D, E	
4.1.Explain workflow in clinical biochemistry laboratory.			10, 11, 16, 19, 6, 9	A, D, E	
1.3. Structurally question hormones and enzymes.			10, 11, 16, 19, 6, 9	A, D, E	
1.4. Summarize the structure and function of vitamins and minerals.			10, 11, 16, 19, 6, 9	A, D, E	
2.1. Compare the pathways used for energy from macromolecules and the metabolism of macromolecules .			10, 11, 16, 19, 6, 9	A, D, E	
3.1. The tests used to evaluate carbohydrate metabolism (AKG, OGTT, HbA1C) are categorized.			10, 11, 16, 19, 6, 9	A, D, E	
3.2. Interferes with laboratory results of atherosclerosis and blood lipids			10, 11, 16, 19, 6, 9	A, D, E	
3.3. In the laboratory, the liver questions how kidney functions and anemia are interpreted.			10, 11, 16, 19, 6, 9	A, D, E	
3.4. Discuss the differences and clinical uses of cardiac markers.			10, 11, 16, 19, 6, 9	A, D, E	
3.5. How hormones are affected in diseases			10, 11, 16, 19, 6, 9	A, D, E	
4.2. Comments the test result relationship of clinical biochemistry with the pharmacist perspective.			10, 11, 16, 19, 6, 9	A, D, E	
4.3. Comments laboratory quality concepts and laboratory errors.			10, 11, 16, 19, 6, 9	A, D, E	
Teaching Methods	10: Discussion Method, 11: Demonstration Method, 16: Question - Answer Technique, 19: Brainstorming Technique, 6: Experiential Learning, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam, D: Oral Exam, E: Homework				
Lecture Schedule					
Sequenc e	Topics	Preliminary Preparation			
1	1-General concepts in biochemistry	1, 2, 3, 4			
2	2- Energy metabolisms	1, 2, 3, 4			
3	3- Energy metabolisms	1, 2, 3, 4			
4	4. How does the clinical biochemistry laboratory work?	1, 2, 3, 4			
5	5-Interpretation of carbohydrate metabolism and related tests	1, 2, 3, 4			
6	6-Liver function tests	1, 2, 3, 4			
7	7-Kidney function tests	1, 2, 3, 4			
8	8-Atherosclerosis and lipid metabolism	1, 2, 3, 4			
9	9-Anemiler, laboratory analysis and interpretation	1, 2, 3, 4			
10	10-Cardiac markers and clinical approach	1, 2, 3, 4			
11	11. Hormones and approach to clinical diagnosis	1, 2, 3, 4			
12	12-Vitamins	1, 2, 3, 4			
13	13-Works and ultraeser elements	1, 2, 3, 4			
14	14- Clinical interpretation of biochemical tests with pharmacist perspective	1, 2, 3, 4			
Evaluation Methods		Weight(%)			
Midterm Exam		50			
General Exam		50			

Graduate School of Health Sciences / Clinical Pharmacy M.S
2024 - 2025 Academic Year
CLINICAL BIOCHEMISTRY
Syllabus

Resources

- 1-Biyokimya Laboratuvarı,Türkan Yiğitbaşı,Nesrin Emekli,Medipol Üniversitesi Yayınları 004,İstanbul,2013.
- 2-Harper's Illustrated Bio chemistry, R.K. Murray, D.A. Bender, K.M. Botham, V.W. Rodwell,P.A. Weil, McGrawHill, 2009.
- 3- Lippincot's Illustrated Reviews, Biochemistry, P.C. Champ, R.A. Harvey, D.R. Ferrier, LWW, 2008
- 4.Biyokimya (2. Baskı) Figen Gürdöl, Evin Ademoğlu, Nobel Tıp Kitabevleri, İstanbul, 2010