School of Pharmacy / School of Pharmacy (English)

2024 - 2025 Academic Year

CLINIC BIOCHEMISTRY PRACTICALS

Syllabus

Course Description					
Name	**Code**	**Semester**	**T+A Hour**	**Credit**	**ECTS**
CLINIC BIOCHEMISTRY PRACTICALS	PHA4214872	Spring Semester	2+0	2	3

Prerequisites Courses	BİYOKİMYA
Recommended Elective Courses	
Language of Instruction	English
Course Level	First Cycle (Bachelor's Degree)
Course Type	Required
Course Coordinator	Assist.Prof. Rashıda Muhammad UMAR
Name of Lecturer(s)	Assist.Prof. Rashıda Muhammad UMAR
Assistant(s)	
Aim	To understand the normal and pathological conditions defined by the clinical biochemistry field which is frequently encountered duringthe practice of pharmacy profession. To understand the meaning of the biochemical parameters used in diagnosis, treatment, followup and prevention of diseases and according to this, be properly ensured orientation of the patient.
Course Content	This course contains; What is clinical biochemistry? How does the clinical biochemistry laboratorywork? ,Liver function tests and interpretation of tests.,Kidney function tests. ,Physical and chemical analysis of urine.,Anemia, laboratory analysis and interpretation.,Insulin, diabetes and diagnostic tests,General tests for the recognition of carbohydrates. ,Hyperlipidemias and its clinical interpretation.,Inflammation. ,Disorders of amino acid metabolism,Hormones and approach to clinical diagnosis,Vitamins, trace elements and clinical interpretation.,Congenital metabolic defects.,Tumor markers. .

Course Learning Outcomes	**Teaching Methods**	**Assessment Methods**
1.2.Compare clinical biochemistry test result relationships from pharmacist perspective.	12, 13, 19, 9	C
1- Query the functioning of clinical biochemistry laboratory.	13, 16, 19, 9	C
2- Query the normal and disease laboratory results of macro and micro molecules	13, 16, 19, 9	C
2.1- Interpret the tests used to evaluate the metabolism of carbohydrates (OGTT, HbA1C)	13, 16, 19, 6, 9	C, H
2.5.explain the structure, functions, and importance of vitamins and minerals in metabolism.	10, 13, 16, 19	C
3-combine the patient's biochemical findings with the patient's history and develops a solution to the problem.	16, 19, 9	C
3.1.Interpret biochemical parameters for diagnosis, follow-up of tumors and improving the quality of life of patients.	10, 12, 13, 16, 19, 9	C
1.1. Explain the work flow in clinical biochemistry laboratory.	10, 16, 19, 9	C
1.3. Query the clinical biochemistry laboratory tests in the table in normal and disease states.	10, 16, 19, 9	C
2.2. Query the laboratory results of atherosclerosis and blood lipids.	13, 16, 19, 9	C
2.3. Interpret the liver, renal function and anemia results in laboratory	16, 19, 9	C
2.4 Query how hormones are affected in diseases	10, 11, 16, 19, 6, 9	C
2.6. question the importance of amino acid metabolism disorders.	10, 11, 16, 17, 19, 6, 9	C
3.2. Contribute to the creation of a treatment plan for congenital metabolic defects.	10, 16, 17, 19, 9	C
3.3. Interpret the interaction of nutrients and drugs with clinical parameters.	10, 16, 17, 19, 9	C

Teaching Methods	10: Discussion Method, 11: Demonstration Method, 12: Problem Solving Method, 13: Case Study Method, 16: Question - Answer Technique, 17: Experimental Technique, 19: Brainstorming Technique, 6: Experiential Learning, 9: Lecture Method
Assessment Methods	C: Multiple-Choice Exam, H: Performance Task

Lecture Schedule

Sequence	**Topics**	**Preliminary Preparation**
1	What is clinical biochemistry? How does the clinical biochemistry laboratorywork?	Reference 1,2,3,4
2	Liver function tests and interpretation of tests.	Reference 1,2,3,4
3	Kidney function tests.	Reference 1,2,3,4
4	Physical and chemical analysis of urine.	Reference 1,2,3,4
5	Anemia, laboratory analysis and interpretation.	Reference 1,2,3,4
6	Insulin, diabetes and diagnostic tests	Reference 1,2,3,4
7	General tests for the recognition of carbohydrates.	Reference 1,2,3,4
8	Hyperlipidemias and its clinical interpretation.	Reference 1,2,3,4
9	Inflammation.	Reference 1,2,3,4
10	Disorders of amino acid metabolism	Reference 1,2,3,4
11	Hormones and approach to clinical diagnosis	Reference 1,2,3,4
12	Vitamins, trace elements and clinical interpretation.	Reference 1,2,3,4
13	Congenital metabolic defects.	Reference 1,2,3,4
14	Tumor markers.	Reference 1,2,3,4

Evaluation Methods	**Weight(%)**
Midterm Exam	40
General Exam	60

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