

TISHK INTERNATIONAL UNIVERSITY
FACULTY OF APPLIED SCIENCE
Department of MEDICAL ANALYSIS,
-2022 Spring
Course Information for MA 406 ADVANCED CLINICAL BIOCHEMISTRY II

Course Name: ADVANCED CLINICAL BIOCHEMISTRY II

Code	Regular Semester	Theoretical	Practical	Credits	ECTS
MA 406	8	2	4	4	4

**Name of Lecturer(s)-
Academic Title:** Rondik Ahmed - BSc. PhD

Teaching Assistant: Mohammed Fatih

Course Language: English

Course Type: Main

Office Hours Tuesday 13 to 17, Thursday 9 to 17

Contact Email: rundk.hwaiz@gmail.com

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Teacher's academic profile: BSc in Chemistry College of Science/University of Salahaddin. PhD in Medical Biochemistry Lund University/Department of Medical Sciences. Assistant professor at Hawler Medical University/ Collage of Health Sciences. Lecturer at Medical analysis Departments/Tishk International University

Course Objectives: 1. Understanding errors of metabolism of all nutrients. 2. Know how hormones act. 3. Know how small materials digest and diseases related to disorder with GIT.

Course Description (Course overview): The course includes overall of the clinical chemistry, include error metabolism of carbohydrates, lipids, and proteins, details of hormones, and mechanism of hormone action, thyroid hormones in health and disease, gastrointestinal tract, digestion and diseases associated with GIT disorders, water and electrolyte imbalance, and acid base balance and disturbances General objectives: 1. Understanding errors of metabolism of all nutrients. 2. Know how hormones act. 3. Know how small materials digest and diseases related to disorder with GIT. 4. Understanding water and electrolyte, hormone and organ that regulate them. 5. Understanding the acid base balance and disturbances.

COURSE CONTENT

Week	Hour	Date	Topic
1	2	6-10/2/2022	inborn errors of metabolism 1
2	2	13-17/2/2022	Introduction to hormones1
3	2	20-24/2/2022	Introduction to hormones2
4	2	27/2-3/3/2022	thyroid hormone
5	2	6-10/3/2022	hypothalamas and pituitary gland
6	2	27-31/3/2022	Hormones regulation calcium
7	2	3-7/4/2022	Hormones regulation phospate and magnesium
8	2	10-14/4/2022	Midterm Exam
9	2	17-21/4/2022	Water and electrolytes 1
10	2	24-28/4/2022	Water and electrolytes 2
11	2	8-12/5/2022	Acid base balance
12	2	15-19/5/2022	kidney function
13	2	22-26/5/2022	kidney disorder
14	2	29/5-2/6/2022	clinical enzymology

15	2	5-9/6/2022	Final Exam
16	2	12-16/6/2022	Final Exam
COURSE/STUDENT LEARNING OUTCOMES			
1	General information about, errors of carbohydrate metabolism, lipid metabolism, protein metabolism, nucleic acid metabolism.		
2	Hormones action.		
3	Water and electrolyte imbalance		
COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES (Blank : no contribution, I: Introduction, P: Profecient, A: Advanced)			
Program Learning Outcomes			Cont.
1	Evaluate clinical laboratory data by interpreting laboratory results and relating the data to various disease states.		A
2	apply principles of evidence-based medicine to determine clinical diagnoses.		A
3	apply the basic principles of gross and microscopic anatomy, physiology, biochemistry, immunology, microbiology/virology.		A
4	formulate and implement acceptable treatment modalities to various disease states.		A
5	use technology effectively in the delivery of instruction, assessment, and professional development.		A
6	exhibit essential employability qualities by demonstrating laboratory safety, analyzing laboratory results, and displaying professional conduct.		A
7	exhibit organizational skills, accountability, and ethical behavior.		A
8	apply skills needed in operating laboratory equipment for testing, assessing quality assurance for lab equipment, and adhering to standard safety practices in the laboratory environment.		A
9	apply problem-solving and decision-making skills.		A
10	apply and promote health policies and regulatory standards in the field career.		A
11	develop research in the field of medical analysis using qualitative and quantitative methods.		A
Prerequisites (Course Reading List and References):	1. Robert K. Murray, Daryl K. Granner, and Victor W. Rodwell. 2006. Harpers biochemistry illustrated biochemistry 27th edition. Lange medical books/McGraw-Hill. London. 2. Richard A. Harvey et al. 2004. Lippincotts illustrated reviews biochemistry third edition, 3-Michael L. Bishop, Edward P. Fody, and Larry E. Schoef. 2005. Clinical chemistry principles, procedures, correlations 5th edition. Lipincott Williams and Wilkins. London. 4- Todd A. Swanson,; Sandra I. Kim,; Mark J. Glucksman. Biochemistry. Molecular biology and genetics 5th edition. 2007. Board review series.		
Student's obligation (Special Requirements):	1- Lectures - are interactive sessions to have a General overview of the objectives and discuss certain areas. 2- Lectures and/or handouts - are not to replace the main source of information that is the textbook. 3. Small group learning Small numbers of students sharing one or more topics to discuss under supervision of the instructor. 4- Labs are group activities where: A- A lists of structures will be prepared to be identified. B-Supervised identification will be carried out. C-Group discussions are very much encouraged. 5- Student self-study 6- Seminars.		
Course Book/Textbook:	1. Robert K. Murray, Daryl K. Granner, and Victor W. Rodwell. 2006. Harpers biochemistry illustrated biochemistry 27th edition. Lange medical books/McGraw-Hill. London. 2. Richard A. Harvey et al. 2004. Lippincotts illustrated reviews biochemistry third edition, 3-Michael L. Bishop, Edward P. Fody, and Larry E. Schoef. 2005. Clinical chemistry principles, procedures, correlations 5th edition. Lipincott Williams and Wilkins. London. 4- Todd A. Swanson,; Sandra I. Kim,; Mark J. Glucksman. Biochemistry. Molecular biology and genetics 5th edition. 2007. Board review series.		
Other Course Materials/References:	external sources like youtube video		
Teaching Methods (Forms of Teaching):	Lectures, Presentation, Seminar, , ,		
COURSE EVALUATION CRITERIA			
Method		Quantity	Percentage (%)
Seminar		1	10
Attendance		1	10
Participation		1	10
Presentation		1	10
Practical Exam		1	10

Presentation case analysis	1	10
Final Exam	1	40
Total		100

Examinations: Essay Questions, Multiple Choices, Short Answers, , ,

Extra Notes:

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	Quantity	Workload Hours for 1 quantity*	Total Workload
Theoretical Hours	16	2	32
Practical Hours	16	4	32
Final Exam	1	1	1
Seminar	1	1	1
Attendance	1	1	1
Participation	1	1	1
Presentation	1	1	1
Practical Exam	1		0
Presentation case analysis	1		0
Total Workload			69
ECTS Credit (Total workload/25)			2.76

Peer review

Signature:
Name:
Lecturer

Signature:
Name:
Head of Department

Signature:
Name:
Dean