

**TISHK INTERNATIONAL UNIVERSITY**  
**FACULTY OF APPLIED SCIENCE**  
**Department of MEDICAL ANALYSIS,**  
**-2022 Spring**  
**Course Information for MA 202 GENERAL AND CLINICAL BIOCHEMISTRY**

**Course Name:** GENERAL AND CLINICAL BIOCHEMISTRY

Code	Regular Semester	Theoretical	Practical	Credits	ECTS
MA 202	2	2	2	3	4

**Name of Lecturer(s)-  
Academic Title:** Najat Zaid - MSc

**Teaching Assistant:** Tolas Kadhim

**Course Language:** ENGLISH

**Course Type:** Main

**Office Hours** Mondays 9:00-17:00, Tuesdays 9:00-12:00

**Contact Email:** najat.zaid@tiu.edu.iq  
Tel: +9647504553147

**Teacher's academic profile:** Master in Biochemistry PhD Student

**Course Objectives:** Our primary objective in this course is to build a good foundation in clinical biochemistry knowledge that allows us to make qualitative and quantitative inquiries into topics in natural science as well as to learn to identify when an argument is scientific, non-scientific or pseudo-scientific. We will also demonstrate how these topics can be applied to the scientific method and how observation and experimentation leads us to the development of scientific theories.

**Course Description (Course overview):** Students will have previously learned about generalized biochemistry. As future medical practitioners, the course will initiate and delve students into the specialized field of clinical biochemistry. Clinical biochemistry can also be recognized as a form of chemistry and but will particularize its use within a clinical context. Students will begin to learn topics concerned with analysis of bodily fluids for diagnostic and therapeutic purposes which will form part of the routine practice of a medical analyst. This course aims to introduce our students to this field and provide an in-depth knowledge of it and its application.

**COURSE CONTENT**

Week	Hour	Date	Topic
1	2	6-10/2/2022	Introduction of carbohydrate, lipid protein and enzymes.
2	2	13-17/2/2022	Carbohydrate metabolism
3	2	20-24/2/2022	Carbohydrate digestion and absorption
4	2	27/2-3/3/2022	Glycolysis
5	2	6-10/3/2022	Core cycle
6	2	27-31/3/2022	Disorder in Carbohydrate Metabolism
7	2	3-7/4/2022	diabetes
8	2	10-14/4/2022	Midterm Exam
9	2	17-21/4/2022	Lipid metabolism
10	2	24-28/4/2022	B oxidation and Ketone body
11	2	8-12/5/2022	Liver function
12	2	15-19/5/2022	Water and Electrolytes
13	2	22-26/5/2022	kidney function test
14	2	29/5-2/6/2022	Kidney diseases

15	2	5-9/6/2022	Final Exam
16	2	12-16/6/2022	Final Exam
<b>COURSE/STUDENT LEARNING OUTCOMES</b>			
1	Carbohydrate metabolism		
2	Diabetes mellitus		
3	Hypoglycemic state		
4	hyperglycemia		
<b>COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES</b> (Blank : no contribution, I: Introduction, P: Profecient, A: Advanced )			
<b>Program Learning Outcomes</b>			<b>Cont.</b>
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.		I
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.		I
7	exhibit organizational skills, accountability, and ethical behavior.		I
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
<b>Prerequisites (Course Reading List and References):</b>		Biochemistry Clinical biochemistry	
<b>Student's obligation (Special Requirements):</b>		The student should prepare themselves before the beginning of each lecture to do the quiz of the previous lecture. During the lesson the student will be assessed and questions will be asked to ensure that the students understand what the lecture is about. All the students should attend the exams. And attendance of the students in the hall is obligated and important.	
<b>Course Book/Textbook:</b>		Clinical biochemistry and metabolic medicine, Martin A. Crook Clinical Biochemistry AN ILLUSTRATED COLOUR TEXT FIFTH EDITION	
<b>Other Course Materials/References:</b>		Websites, youtube	
<b>Teaching Methods (Forms of Teaching):</b>		Lectures, Presentation, Assignments, , ,	
<b>COURSE EVALUATION CRITERIA</b>			
<b>Method</b>		<b>Quantity</b>	<b>Percentage (%)</b>
Seminar		1	5
Quiz		1	5.0
Homework		2	5.0
Midterm Exam		1	20
Laboratory		2	5.0
Practical Exam		1	10
Final Exam		1	40
	<b>Total</b>		<b>100</b>
<b>Examinations:</b> Essay Questions, True-False, Multiple Choices, Short Answers, , ,			

Extra Notes:

**ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD**

<b>Activities</b>	<b>Quantity</b>	<b>Workload Hours for 1 quantity*</b>	<b>Total Workload</b>
Theoretical Hours	16	2	32
Practical Hours	16	2	16
Final Exam	1	5	5
Seminar	1	6	6
Quiz	1	8	8
Homework	2	10	20
Midterm Exam	1	2	2
Laboratory	2	1	2
Practical Exam	1	1	1
<b>Total Workload</b>			<b>92</b>
<b>ECTS Credit (Total workload/25)</b>			<b>3.68</b>

**Peer review**

Signature:

Name:

Lecturer

Signature:

Name:

Head of Department

Signature:

Name:

Dean