



Yarmouk University
Faculty of Medicine



Document Approval Date	Course Syllabus	Document Code
		AP01-PR05

Department: Department of Basic Medical Sciences

Official Stamp:

Course Identification	
Course Name: Biochemistry	Course Code and Number: MED113
Number of Credit Hours: 3	Semester: Sammer
Course Status: Faculty requirement	Teaching Language: English
Pre-requisite: BIO111	Course Coordinator: Mazhar Al Zoubi

General Information	
Teaching Method	<input checked="" type="checkbox"/> Face-to-Face <input type="checkbox"/> Online <input type="checkbox"/> Blended
Course Description	This course is designed to introduce medical students to human biochemistry by defining, describing and discussing the fundamental contents of basic medical biochemistry. Mainly, the course will discuss the chemical structures and properties of macromolecules (Proteins, Carbohydrates, and Lipids) as well as their functional properties and metabolism. Enzymes kinetics, behavior, and clinical importance are covered as well. The third part will focus on the bioenergetics and metabolism of the major macromolecules.
Course Objectives	<ol style="list-style-type: none"> 1. Discussing and describing the structure and function of macromolecules in the human body. 2. Discussing and demonstrating the structure, kinetics function of enzymes structure. 3. Discussing the metabolism of carbohydrate and lipids. 4. Describing and explaining the importance of bioenergetics. 5. Discussing and demonstrating the integrated metabolic pathways and the relevant clinical correlations.
Course Learning Outcomes (CLOs)	<p>At the end of the course the students are expected to:</p> <p>CLO1: Define, recognize and describe the basic structure of macromolecules and demonstrating some examples by discussing structural and functional examples.</p> <p>CLO2: Discuss and describe the metabolism of carbohydrates and lipids and the mechanism of the regulation of these metabolic pathways.</p> <p>CLO3: Explain the metabolic defects behind a group of human diseases and symptoms that are related to the defect in the metabolism processes.</p>

س. ا. وليد العبد



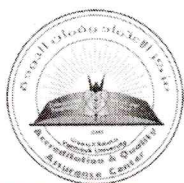
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	<p>CLO4: Explains and discuss the mechanisms behind the energy production at the cellular level.</p> <p>CLO5: Integrate the basic biochemistry knowledge with the clinical application.</p>
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Mapping Course Learning Outcomes CLOs to Program Learning Outcomes PLOs							
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7
CLO1	X						
CLO2	X						
CLO3	X						
CLO4	X						
CLO5	X						



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Assessment Methods					
Assessment Type	Date and Time	Assessment Method	Mark (%)	CLOs	
Midterm Exam	4 th week	MCQs	50%	1-3	
Activities*	Activity (1)	Week 2	Homework assignment	0	1
	Activity (2)	Week 5	Homework assignment	0	2
	Activity (3)	Week 9	Homework assignment	0	3
	Activity (4)	Week 12	Homework assignment	0	4
Final Exam	8 th week	MCQs	50%	1-5	

*The instructor must choose at least three activities from the following: quizzes, assignments, projects, videos, discussions, etc.

Course Contents, Schedule, and Instruction Methods		
Week	Course Content	Instruction Method**
Week 1	Chapter 1: Amino Acids Chapter 2: Structure of Proteins	Lectures
Week 2	Chapter 3: Globular Proteins Chapter 4: Fibrous Proteins	Lectures
Week 3	Chapter 5: Enzymes Chapter 6: Bioenergetics and Oxidative Phosphorylation	Lectures
Week 4	Chapter 7: Introduction to Carbohydrates Chapter 8: Glycolysis	Lectures
Week 5	Chapter 9: Tricarboxylic Acid Cycle Chapter 10: Gluconeogenesis	Lectures
Week 6	Chapter 11: Glycogen Metabolism Chapter 13: Pentose Phosphate Pathway and NADPH	Lectures
Week 7	Chapter 15: Metabolism of Dietary Lipids Chapter 16: Fatty Acid and Triacylglycerol Metabolism	Lectures
Week 8	Chapter 18: Cholesterol and Steroid Metabolism	Lectures
Final Exam Week		

**Instruction method is as follows:



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- **Face-to-Face course:** Face-to-face class
- **Online course:** Interactive synchronous or asynchronous
- **Blended course:** Face-to-face or Online (synchronous or asynchronous)

Main Textbook and References	
Main Textbook	Lippincott's Illustrated Reviews: Biochemistry 7th Edition and above, Lippincott Williams & Wilkins, a Wolters Kluwer
Other References	

Policies and Instructions***	
Attendance	Physical attendance is mandatory in this course considering there are 15 % of excused absences.
Activities	All assignments that are given as activities should be submitted before the due date using an e-learning system
Late Submission	Late submission will be considered by with deduction of 25% of the grade (if applicable)
Exams	There are two exams (mid and final) 50% of the total grade will be assigned for each exam. All exam sessions will be held using the electronic system at the IT department and evaluated electronically.
Cheating and Plagiarism	Cheating and Plagiarism are against the policy of Yarmouk University and the involved students will be subjected to the institutional regulations and laws and the punishment will be applied upon the confirmation of the misconduct.

***For more information, please see the student handbook.