



The University of Jordan

Accreditation & Quality Assurance Center

COURSE Syllabus

1	Course title	Biochemistry
2	Course number	0308242
3	Credit hours (theory, practical)	4 (3 theory, 3 practical)
	Contact hours (theory, practical)	3 theory, 3 practical / week
4	Prerequisites/corequisites	General Biology 1 (0304101)
5	Program title	Medical Laboratories
6	Program code	
7	Awarding institution	
8	Faculty	Science
9	Department	Department of Medical Laboratories
10	Level of course	200
11	Year of study and semester (s)	Fall 2017/ 2018
12	Final Qualification	BSc
13	Other department (s) involved in teaching the course	
14	Language of Instruction	English
15	Date of production/revision	17.9.2017

16. Course Coordinator:

Office numbers, office hours, phone numbers, and email addresses should be listed.

Office numbers :Biology Building 304

office hours: Mon., Wed. 10-11

phone numbers: 22241

email: ahunaiti@ju.edu.jo

17. Other instructors:

Office numbers, office hours, phone numbers, and email addresses should be listed.

18. Course Description:

As stated in the approved study plan.

The goals of this course are to 1- learn the basic human biochemistry, with an emphasis on

bimolecular structure, metabolic pathways and their relationship to human health and disease
 2- Explore the fundamental structures, function and interactions of biological macromolecules, proteins, carbohydrates and lipids.
 3- Provide students with practical experience with common analytical techniques used to isolate, quantify, and characterize biomolecules.

1. 19. Course aims and outcomes:

2.

A- Aims:

This Course aims to introduce undergraduate students to basic human biochemistry, with an emphasis on bimolecular structure, metabolic pathways and their relationship to human health and disease. The practical part of this course aims to allow students to experience common analytical techniques used to isolate, quantify, and characterize biomolecules.

B- Intended Learning Outcomes (ILOs): During learning of this course, students are expected to

1. Learn basic concepts of biochemistry
2. Acquire the technical language used to communicate biochemistry information accurately and their implications in health and disease
3. Recall and relate the molecular structures and chemical properties of biological macromolecules and their functions
4. Understand the biochemical conversions and energetic relationships among the metabolic pathways
5. To know the basic experimental methods used to study biochemistry

C- Student outcomes(SO): Upon successful completion of this course students will be able to ...

1. Understand basic concepts of biochemistry
2. Recognize the principles and fundamental concepts of biochemistry and have an awareness of how molecules, pathways, cells and organs interact in a controlled fashion to create and maintain a living organism
3. Perform a selected number of biochemical techniques and the calculations using chemistry/biochemistry-based formulae in a biomedical laboratory setting
- 4 Identify key applications of biochemistry which are relevant to biomedical sciences, and laboratory medicine with concentration on how structures are adapted to perform the specific function of macromolecules.

Table 1			
Week NO	Title	Topics	Chapter NO
1-2	Introduction and basic concepts	1.1The Basis of Biochemistry . . 1.2. Water as a sustaining life medium Acids &Bases and buffers	1,2
3-5	Biomolecules	.. Structure and function of proteins Amino acids Peptides. Primary structure determination. Three-Dimensional structure and function of proteins.	3,4,5
6-7	Enzymes	Enzymes. Catalysis and enzyme kinetic . Characteristics of biological catalysts. Enzyme catalysis. Enzyme kinetics. Enzyme regulation.	6,7
8-10	Carbohydrates	Carbohydrates. Monosaccharaides. Oligosaccharides Polysaccharides Glycoconjugates	16
. MID TERM EXAM			
11-12	Introduction to metabolism	Glycolysis &TCA Cycle Gluconeogenesis Oxidative phosphorylation	17,18,19,20
13	Lipids and Bio membranes	Lipids Chemical nature, Types ,metabolism. Bio membranes	8,21
14	Integration of metabolism	Connection between metabolic pathways ,cellular signaling, hormones and control of metabolism	24

0. Topic Outline and Schedule:

As shown in table 1

21. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

1. 3/ 1h lectures/ week
2. 3 h lab/ week

22. Evaluation Methods and Course Requirements:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

1. 1/ 1h exams + final 2h
2. 10 lab reports
3. 1 lab practical exams

23. Course Policies:

A- Attendance policies:

Attendance of lectures and lab sessions is obligatory

B- Absences from exams and handing in assignments on time:

Not accepted

C- Health and safety procedures:

Strict and are followed up

D- Honesty policy regarding cheating, plagiarism, misbehavior:

Very strong.

E- Grading policy:

70% theory , 30% practical

F- Available university services that support achievement in the course:

Accepted, but not adequate.

24. Required equipment:

1. New PH meters , centrifuges for the lab
2. Data shows and laptops for lectures

25. References:

A- Required Textbook (s), assigned reading and audio-visuals:

- Biochemistry 8th edition by Mary K. Campbell and Shawn O. Farrell.

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B- Recommended books, materials, and media:

26. Additional information:

Name of Course Coordinator: Prof Dr. Abdelrahim Hunaiti-----Signature: abdelrahim hunaiti

Date: 17.9.2017

Head of curriculum committee/Department: ----- Signature: -----

Head of Department: ----- Signature: -----

Head of curriculum committee/Faculty: ----- Signature: -----

Dean: ----- -Signature: -----

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Head of Department
Assistant Dean for Quality

Course File

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