



Amman- Jordan

عمان - الأردن

كلية الصيدلة
Faculty Of PharmacyThe Bachelor Degree in Pharmacy
of Applied Science Private
University is Certified by the
Accreditation Council for Pharmacy
Education

المستوى الذهبي

فئذفءل من أردن العربف ءامعة العربف

Faculty: Pharmacy

Department: Department of Clinical Pharmacy & Therapeutics

Academic Year: 2018- 2019

Semester: Second

(Course Syllabus)

Subject Name	Credit Hours	Course No.	Prerequisite	Concurrent course
Biochemistry 2	2	906222	Biochemistry 1	

Coordinator Name	Lecturer/s	Room No.	E-mail	Course website	Office Hours
Dr. Husam Abazid	1- Dr. Husam Abazid	121	h_abazid@asu.edu.jo	http://bio.asu.edu.jo/bio/index.jsp	As shown on individual lecturer time table
	2- MSc. Ghada Abu-Amara	213	gh_abua_mara@asu.edu.jo		

Course Description:

Use the knowledge gained in Biochemistry I to understand the basic concepts of metabolism. Understand the metabolic pathways of the major biomolecules; carbohydrates, lipids, proteins and nucleic acids, both anabolic and catabolic pathways. Understand the regulation of metabolism.

Course Objectives:

- 1) The student should be able to use the knowledge gained in Biochemistry I to understand the basic concepts of metabolism.
- 2) The student should be able to understand the metabolic pathways of the major biomolecules, carbohydrates, lipids, proteins, and nucleotides.
- 3) The student should be able to understand the effect of fed and fast status on different metabolic pathways.

Intended Learning Outcomes:

Successful completion of the course should lead to the following outcomes:

A. Knowledge and understanding:

The student should be able to:

- A1. Learn new terms related to metabolism.
- A2. Know the relationship between the structures of biomolecules, that were taught in biochemistry I.
- A3. Know the biological functions as energy sources, and then trace the ways they are synthesized and degraded

B. Subject specific skills:

The student should be able to:

- B1. Have a better understanding of the link between biochemistry and other taught courses in pharmacy curriculum.



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B2. Acquire a wide-range of theoretical knowledge, methodological orientation and practical skills in the various sectors of biochemistry.

B3. Realize the practical aspects of biochemical laboratory work and learn the knowledge and skills required to pull one's weight in a research team.

C. Cognitive and Intellectual skills:

The student should be able to:

C1. Read and use scientific literature with a full and critical understanding, addressing content, context, aims, objectives quality of information and its interpretation and application.

C2. Critically evaluate information and data from a variety of sources, interpret quantitatively and qualitatively scientific information, and explain complex scientific ideas in written, visual and oral form.

C3. Assess the value and limitations of existing knowledge and experimental techniques.

D. Transferable Skills:

The student should be able to:

D1. Develop the key practical skills and technical competencies required to become a scientist in areas that include healthcare, industry and research.

D2. Learn how to apply advanced numerical skills and statistical analysis to solve problems involving biological data, and to write up findings accurately, clearly and concisely, in the appropriate style.

D3. Provide numerous opportunities to develop a broad range of transferable skills that are keenly sought after by potential employers, both within the bioscience sector and beyond.

Teaching and Learning Methods:

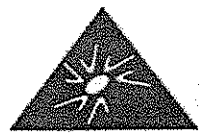
Development of ILOs is promoted through the following teaching and learning methods:

ILOs	Learning Methods	Evaluation Methods
A1-A2-A3-B1-D3	Lectures (to explain the theoretical knowledge for each topic)	Exams and Quizzes
B1-B2-B3-C2	Demonstration (to apply the knowledge to solve patient cases)	Problem
C1-C2-C3-D1-D2	Role plays (to apply the knowledge to solve patient cases) in the virtual pharmacy	Multiple-choice exams



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Course Content:

Week	Date	Lecture number	Topic's Details	Exams/ /quizes/ holidays	Main Reference (chapter)	ILOs achieved
1		2 lecture	Introduction to Metabolism: Bioenergetics & Oxidative phosphorylation		Chapter 6	A1
2		2 lecture	Glycolysis		Chapter 8	A1
3		2 lecture	Tricarboxylic acid cycle (TCA)		Chapter 9	A2
4		1 lecture	Gluconeogenesis		Chapter 10	A2
4		1 lecture	Metabolism of Monosaccharides and Disaccharides		Chapter 12	A3
5		1 lecture	Glycogen Metabolism		Chapter 11	A3
5		1 lecture	Pentose Phosphate pathway and NADPH		Chapter 13	B1
6			FIRST EXAM			
6		2 lecture	Metabolism of dietary lipids		Chapter 15	C2
7		2 lecture	Fatty acids & Triglycerids metabolism		Chapter 16	B2
8		2 lecture	Complex lipid metabolism		Chapter 17	B3
9, 10		2 lecture	Cholesterol & Steroid metabolism		Chapter 18	C1
11			SECOND EXAM			
11		2 lecture	Disposal of Nitrogen		Chapter 19	C3
12		2 lecture	Amino acid degradation & synthesis		Chapter 20	D1
13		2 lecture	Conversion of amino acids to specialized products		Chapter 21	D2
14		2 lecture	Metabolic Effects of Insulin and Glucagon ; Diabetes Mellitus		Chapter 23	D3
15/16			FINAL EXAM			



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Grade Distribution:

Your course grade will be determined by the following:

<i>Assessment Method</i>	<i>% of Final Grade</i>	<i>Due Date</i>
First Exam	25%	TBC
- Second Exam	25%	TBC
- Assignments (reports, quizzes, homeworks, participation, conduct)	-----	
- Final Examination	50%	TBC

Distribution of examination material:

- ✓ 35% - Carbohydrate and diseases related to carbohydrate metabolism.
- ✓ 35% - Lipids and diseases related to Lipids metabolism.
- ✓ 30% - Proteins and diseases related to proteins metabolism. (Solving short cases).

23. Course Policies:**A- Attendance policies:**

Attendance: Mandatory.

First warning – with 4 absences

Last warning – with 5 absences

Failing in the subject – with 6 absences

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

Will result in zero achievement unless health report or other significant excuse is documented.

C- Health and safety procedures:

NA

D- Honesty policy regarding cheating, plagiarism, misbehavior:

The participation, the commitment of cheating will lead to applying all following penalties together

1. Failing the subject he/she cheated at
2. Failing the other subjects taken in the same course
3. Not allowed to register for the next semester. The summer semester is not considered as a semester

E- Grading policy:

Exams and Quizzes.

First Exam:	25 points
Second exam:	25 points
Final Exam:	50 points
Total:	<u>100 points</u>

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

Classrooms, internet classes

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Form code: UF 130/1

24/233 Resolution number

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24. Required equipment:

Data show and internet connection

Make-up Exam Policy:

Make-up exams will be offered for valid reasons. They may be different from regular exams, both in content and format.

Textbooks information:

Main Reference:

1- Biochemistry, Lippincotts Illustrated Review, Richard A. Harvey. 7th edition. Lippincott Williams & Willkins 2017.

Other References:

1- Instant Notes in Biochemistry. David Hames and Nigel Hooper. 3rd edition, Taylor & Francis 2005.
2- Biochemistry Illustrated. Campbell, P.N., Smith, A.D. 4th edition, Churchill Livingstone.2006.

Additional information:

No side talks during lecture

No mobile phones during lecture

Entering the lecture theatre after the instructor is not permitted.

Homework should be done by students independently and will be asked at the exams

Course Material and Announcements

Students need to use the e-learning page at the ASU website in order to get all lecture handouts and guidelines which will be uploaded there.

In addition, course related announcements and exam results will be posted on the ASU online AND/OR course website and is the responsibility of each student to check the sites regularly.

Name of Course Coordinator: حسام ابراهيم زيد

Signature: [Signature]

Date: ٢٠١٩/٩/٢٧

Head of curriculum committee: [Signature]

Signature: [Signature]

Head of Department: [Signature]

Signature: [Signature]

Dean: [Signature]

Signature: [Signature]

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Head of curriculum committee
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