



Course Specifications

Course Title:	Basics to Medical Biochemistry -I -
Course Code:	4810120-2
Program:	Medical Path
Department:	Common First Year Deanship
College:	Applied of Medical Sciences
Institution:	Umm Al-Qura University

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A. Course Identification

1. Credit hours: 2 (1+1)
2. Course type
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
3. Level/year at which this course is offered: 1 / common 1 st year
4. Pre-requisites for this course (if any): None
5. Co-requisites for this course (if any): None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	1	70
2	Blended		
3	E-learning		
4	Distance learning		
5	Other (Practical)	2	30

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	14
2	Laboratory/Studio	
3	Tutorial	2
4	Others (specify) practical	22
	Total	38

B. Course Objectives and Learning Outcomes

<p>1. Course Description</p> <ul style="list-style-type: none"> The course is one semester course of 2 credit hours (one credit for theory lectures and one for practical sessions) with total 3 contact hours. Fifteen lectures are provided to the students, covering the biochemistry principles of macromolecules, Carbohydrates, lipids, proteins, vitamins, and minerals. <p>Thirteen practical sessions are provided to enable students to describe important practical techniques, with experiments that reinforce and complement the taught material.</p>
<p>2. Course Main Objective</p> <ul style="list-style-type: none"> To consolidate a general background in biochemistry by putting biochemical concepts into a medical sciences context. To provide the basic concepts of biochemical structure and medical significance of bio macromolecules, carbohydrates, lipids, proteins, vitamins, and minerals will be covered.

Practical classes will introduce important practical techniques, with experiments that reinforce and complement the taught material.

The course will allow students to continue with physiology course as part of the enhanced medical track-study.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge and Understanding	
1.1	to understand the key metabolic processes occurring in the human body that could contribute to the understanding and explanation of pathological phenomena.	
1.2	To describe the various control and integrating mechanisms of diverse biochemical events in different metabolic processes, and to understand normal and abnormal human metabolism	
1.3	To explain the hormonal, non-hormonal regulation and the points of controlling of these major metabolic pathways.	
1.4	To correlate the impact of any biochemical abnormality to the medical status	
1.5	to explore the biochemical basis of diseases, and figure out how to correlate biochemical events to some medical problems.	
2	Skills :	
2.1	to develop of scientific search skills and writing of a scientific medical subject	
2.2		
3	Values:	
3.1	to develop a team work by scientific search skills and writing of a scientific medical subject	
3.2		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to the course: (scope, objectives, and evaluation)	1
2	Biochemical Aspects of Carbohydrates	4
3	Biochemical Aspects of Lipids	4
4	Biochemical Aspects of proteins	3
5	Biochemical Aspects of Vitamins	1
6	Biochemical Aspects of Minerals	1
7	Tutorial	2
8	Practical sessions	22
Total		36

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and Understanding		
1.1	Identify the macromolecules in biochemistry and its structure..	Intertactive lecture	MCQ – written exam

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.2	Describe the medical significance of biomolecules.	Intertactive lecture	MCQ – written exam
1.3	Explain the correlation between the chemical structure and the medical cellular-function.	Intertactive lecture	MCQ – written exam
2.0	Skills		
2.1	to develop of scientific research skills with proper manipulation with lab insruments	Lab conduction	Practical
2.2			
...			
3.0	Values		
3.1	to develop a team work and stick to the indications and regulations	Lab conduction	Practical
3.2			
...			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Mid term written exam	9	30%
2	Practical Exam	15	25%
4	Final written exam	17	45%
5			
6			
7			
8			

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

The student has the right to contact the lecturer or coordinators by their e-mails or during their office hours for academic advices or consultations, and response to students' feedback.

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	<ul style="list-style-type: none"> Text book of Biochemistry with Clinical Correlations, Seventh ed. Devlin TM (2010). Ed. Wiley –Liss New York Principles of Biochemistry, A.L. Lehninger. D.L.Nelson and M.M. Cox, (2008) Worth Publication s. New York.
Essential References Materials	<ul style="list-style-type: none"> Harper's Illustrated Biochemistry, 28edition (2006) Robert K. Murray, David A Bender, Kathleen M. Botham , Peter J. Kennelly, Victor W., Rodwell , P. Anthony Weil, Publishers The McGraw-Hill Companies. Instant Notes Biochemistry , Second Ed(2007) by B.D. Hames & N.M. Hooper
Electronic Materials	<ul style="list-style-type: none"> Biochemical Society, www.biochemistry.org Association for Clinical Biochemistry (ACB), www.acb.org.uk Biochemistry website, www.bio.net/bionet

	<ul style="list-style-type: none"> • The ChemWeb Chemistry Portal, www.chemweb.com • Medscape, www.medscape.com • Biomedical central, www.biomedcentral.com/bmcpublihealth • www.kumc.edu/biochemistry/resource.html • www.medlib.iupui.edu/ref/biochem.htm • www.ag.unr.edu/shintani/bch400-600/Chapter%20notes%20current.htm • www.medicaleducationonline.org/component/option,com_docman/task,cat_view/gid,101/Itemid,37/ • www.bcs.whfreeman.com/thelifewire/content/chp00/00020.html • www.science.nhmccd.edu/biol/ap1int.htm • www.johnkyrk.com/index.html • www.science.nhmccd.edu/biol/biolint.htm • http://www.ag.unr.edu/shintani/bch400-600/Chapter%20notes%20current.htm • http://www.medicaleducationonline.org/component/option,com_docman/task,cat_view/gid,101/Itemid,37/ • http://www.bcs.whfreeman.com/thelifewire/content/chp00/00020.html • http://www.science.nhmccd.edu/biol/ap1int.htm • http://www.johnkyrk.com/index.html • http://www.science.nhmccd.edu/biol/biolint.htm
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	<ul style="list-style-type: none"> ➤ Class rooms with projector ➤ Labs with instruments
Technology Resources (AV, data show, Smart Board, software, etc.)	<ul style="list-style-type: none"> ➤ data show, Smart Board, software
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Evaluation questionnaires for the student's opinions about teaching process by the end of the semester are done.	student	questionnaires
Evaluation questionnaires posed by the staff for learning process at the end of the semester.	staff	questionnaires

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Vice Dean of Common First Year for Academic Affairs, Dr Ahmad Fawzi Arbaeen
Reference No.	–
Date	27/3/2022

