



Course Specifications

Institution: Umm Alqura University	Date: 5-12-2018
College/Department :	Common First Year – Department of Biochemistry

A. Course Identification and General Information

1. Course title and code:	Basics to Medical Biochemistry II - 4810120-2.																						
2. Credit hours:	2 Credit hours																						
3. Program(s) in which the course is offered.	<ul style="list-style-type: none"> - Common First Year (Medical Track) including: <ul style="list-style-type: none"> - Bachelor Degree of Medicine - Bachelor Degree of Medical Sciences - Bachelor Degree of Pharmacy - Bachelor degree of Dentistry <p>(If general elective available in many programs indicate this rather than list programs)</p>																						
4. Name of faculty member responsible for the course :	Dr Mohammed Ahmed Althubeti																						
5. Level/year at which this course is offered:	Second semester																						
6. Pre-requisites for this course (if any):	None																						
7. Co-requisites for this course (if any):	None																						
8. Location if not on main campus:	Abdeia																						
9. Mode of Instruction (mark all that apply):	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">a. traditional classroom (IL and Lecture)</td> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 40%;">What percentage?</td> <td style="width: 10%; text-align: center;"><input type="text"/></td> </tr> <tr> <td>b. blended (traditional and online)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td>What percentage?</td> <td style="text-align: center;"><input type="text"/></td> </tr> <tr> <td>c. e-learning</td> <td style="text-align: center;"><input type="checkbox"/></td> <td>What percentage?</td> <td style="text-align: center;"><input type="text"/></td> </tr> <tr> <td>d. correspondence</td> <td style="text-align: center;"><input type="checkbox"/></td> <td>What percentage?</td> <td style="text-align: center;"><input type="text"/></td> </tr> <tr> <td>f. other (Practical sessions)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td>What percentage?</td> <td style="text-align: center;"><input type="text"/></td> </tr> </table>			a. traditional classroom (IL and Lecture)	<input checked="" type="checkbox"/>	What percentage?	<input type="text"/>	b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>	c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>	d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>	f. other (Practical sessions)	<input type="checkbox"/>	What percentage?	<input type="text"/>
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Comments:																							



B Objectives

1. What is the main purpose for this course?

This course aims to:

- *Elucidate the basic metabolic concepts underlying normal and abnormal cell behaviours.*
- *Describe the medical significance of the metabolism of different biomolecules; carbohydrates, lipids, and proteins.*
- *Understand the bioenergetics of the cells to perform its physiological functions.*

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- *Continues updating for content of lectures as a result of recent achievements and researches in the field.*
- *Encouraging the students to deal with electronic books, as they are using many web based reference material and by providing them with continues update for information.*
- *Implementation of more medical correlations and present an update specification of the course.*
- *Planning for elective self-studies in the course to encourage students to engage in depth study of areas of interest.*
- *More efforts will be exerted to develop and improve the course to enable the student to clearly understand the biochemical and medical basis of diseases and other social health related-phenomena.*

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

- *The course is one semester course of 2 credit hours with total 30 contact hours.*
- *Fifteen lectures are provided to the students, covering the biochemistry principles of metabolism of carbohydrates, lipids, and proteins. In addition to bioenergetics of cells.*
- *The course explores the biochemical mechanisms of different tissues in different physiological conditions.*

1 Topics to be Covered		
List of Topics	No of Weeks	Contact hours
Introduction to the course: (scope, objectives, and evaluation)	1	1
Biochemical Aspects of Enzymes, and Hormones.	2	4
Vitamins and Minerals	2	4
Chemical and Energetic Transformation in Cells	2	4
Carbohydrate Metabolism	4	8
Lipid Metabolism	2	4
Protein Metabolism	2	4
Tutorial	1	2
Total	15	31 hours
Lecture: 31 contact hours	Tutorial: 0	Practical: 0 hours

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	26	2			2	30
	Actual						
Credit	Planned	2					2
	Actual						

3. Additional private study/learning hours expected for students per week. 2 hours

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment

methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	By the end of this course, the Medical Track students are expected to be able to: <ul style="list-style-type: none"> To give the students insight to understand the key metabolic processes occurring in the human body that could contribute to the understanding and explanation of pathological phenomena. 	Interactive learning	Written MCQ
1.2	<ul style="list-style-type: none"> To describe the various control and integrating mechanisms of diverse biochemical events in different metabolic processes, and to understand normal and abnormal human metabolism. 	Interactive learning	Written MCQ
2.0	Cognitive Skills		
2.1	<ul style="list-style-type: none"> To explain the hormonal, non-hormonal regulation and the points of controlling of these major metabolic pathways. 	Interactive learning	Written MCQ
	<ul style="list-style-type: none"> To correlate the impact of any biochemical abnormality to the medical status 		
3.0	Interpersonal Skills & Responsibility		
3.1	<ul style="list-style-type: none"> to improve the understanding of medical and biochemical phenomena in the life like obesity, exercise, and fasting to be more effective in interaction. 	Interactive learning	Written MCQ + assignments
	<ul style="list-style-type: none"> To understand how to explore the biochemical basis of diseases, and figure out how to correlate biochemical events to some medical problems. 	Interactive learning	Written MCQ + assignments
4.0	Communication, Information Technology, Numerical		
4.1	<ul style="list-style-type: none"> to develop of scientific search skills and writing of a scientific medical subject in a team work . 	assignments	Assignments evaluation
5.0	Psychomotor		
5.1	Performing practical experiments to differentiate between macro biomolecules	Practical sessions	Practical exam + written MCQ
5.2			

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Mid-term written exam	7	25 %
2	Assignments	10	10 %
3	Final written exam	17	65 %

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- The student has all rights to contact the lecturer or coordinator by their e-mails or during their office hours for academic advices or consultations, and response to students' feedback.
- Staff supervision for the groups of the students in performing their assignments.
- Tutorial is carried out by the end of the course to summarize and answer all questions of the students.

E. Learning Resources

1. List Required Textbooks

- **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.

2. List Essential References Materials (Journals, Reports, etc.)

- **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

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

- [Biochemical Society, www.biochemistry.org](http://www.biochemistry.org)
- [Association for Clinical Biochemistry \(ACB\), www.acb.org.uk](http://www.acb.org.uk)
- [Biochemistry website, www.bio.net/bionet](http://www.bio.net/bionet)
- [The ChemWeb Chemistry Portal, www.chemweb.com](http://www.chemweb.com)
- [Medscape, www.medscape.com](http://www.medscape.com)
- [Biomedical central, www.biomedcentral.com/bmcpublichealth](http://www.biomedcentral.com/bmcpublichealth)
- 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/bio1int.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/bio1int.htm>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access,etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Class rooms with projector

2. Technology resources (AV, data show, Smart Board, software, etc.) Audio-visual equipment for teaching (projector, microphones, speakers, smart board.
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

G. Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none"> ▪ Evaluation questionnaires for the student's opinions about teaching process by the end of the semester are done. ▪ Evaluation questionnaires posed by the staff for learning process at the end of the semester.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department <ul style="list-style-type: none"> ▪ Evaluation questionnaires for the student's opinions about teaching process by the end of the semester are done, analyzed for each evaluation
3. Processes for Improvement of Teaching <ul style="list-style-type: none"> ▪ Most of the staff involved in the teaching of biochemistry are from faculty of medicine and participate in the staff developing workshops held by the faculty in cooperation with UCL (University college of London).
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. All student exam results and questionnaire results are collected and analyzed. Then preparing of action plan for improvement will be carried out and presented to the higher curriculum committee in the department of biochemistry. Then presented to the vice-deanship of the common first year

Course Coordinator: ___Dr . Mohammed Ahmed Althubeti_____