COURSE SPECIFICATION

General Biochemistry

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) Programme offering the course:	Master Degree of Histology & Cytology
(2) Department offering the programme:	Histology and Cell Biology Department
(3) Department responsible for teaching the course:	Medical Biochemistry Department
(4) Part of the programme:	Second part
(5) Date of approval by the Department`s council	3-5-2016
(6) Date of last approval of programme specification by Faculty council	**9-8-2016**
(7) Course title:	General Biochemistry
(8) Course code:	HIST 502 GB
(9) Credit hours:	2
(10) Total teaching hours:	30

(B) Professional information

(1) Course Aims:

The broad aims of the course are as follows:

Provide candidate with a basic knowledge in modern biochemistry and molecular biology necessary for an understanding of the life sciences at the molecular level in addition to a basic training in the principles of biochemistry and molecular biology techniques.

(2) Intended Learning Outcomes (ILOs):

Intended learning outcomes (ILOs); Are four main categories: knowledge & understanding to be gained, intellectual qualities, professional/practical and transferable skills.

On successful completion of the course, the candidate will be able to:

A- Knowledge and Understanding

A 1 Define the structure, function and metabolic pathways of carbohydrates, lipids, proteins, nucleotides and their micro-molecules and their regulatory mechanisms.

A 2 Identify the related metabolic disorders and their clinical prints on biochemical and molecular basis

A 3 Discuss the functions of hormones and micronutrients, their biochemical, clinical and laboratory importance and deficiency manifestations of each

A 4 Illustrate the mode of action and kinetics of enzymes and their role in the diagnosis of diseases.

A5 (Describe Gene structure in prokaryotes, DNA structure, replication, transcription , RNA structure, protein synthesis, methods of DNA isolation, PCR, sequencing and recombinant DNA technology).

B- Intellectual skills

B1 Point-out the application of molecular biology in basic and clinical sciences.

B2 Interpret symptoms, signs of vitamins deficiency diseases

B3 Interpret the clinical significance of determination of plasma levels of glucose, total proteins, SGOT, SGPT, bilirubin, albumin, cholesterol, TG, creatinine and uric acid

B4 Diagnose the type of abnormality of pathological glucose tolerance curve

D- Communication & Transferable skills

D 1 Work in team. D2 Communicate and use internet.

(3) Course content:

Subjects	Lectures	Seminars
1.Carbohydrate chemistry & metabolism	2	----
2. Lipid chemistry & metabolism	2	
3. Physical chemistry	2	
4. Protein chemistry & general metabolism	2	
5 Individual amino acid Metabolism	2	
6. Principles of Heme metabolism	2	
7. Purine & pyrimidine chemistry & metabolism	2	
8. Metabolic interrelation & minerals	2	
9. Mechanism of hormonal action	2	
10. Body Fluids	2	
11.Basic function of Cell organelles & structure of biological membrane	2	
12. Vitamins & enzymes	2	
13. Basic knowledge of Cell cycle & apoptosis	2	-----
14. Molecular biology & recombinant DNA	2	
15. Biological oxidation &Xenobiotic metabolism	2	
Total	30	

(4) Teaching methods:

4.1: Lectures

4.2: Self learning (internet search for specific topics)

(5) Assessment methods:

5.1: Written& MCQ exam **for assessment of** A1-5, B1-4.

(6) Percentage of each assessment to the total mark:

Written exam: 80% = 80 degrees

MCQ exam: 20% = 20 degrees

References of the course:

6.1: **Hand books:** Medical biochemistry department (student book)

6.2: **Text books:** Harper's Illustrated Biochemistry: 28th edition by Murray RK, Granner DK, Mayes PA, Rodwell VW, McGraw-Hill companies New York, 2009

6.3: **Websites:** The Biology Project (from the University of Arizona):
http://www.biology.arizona.edu/default.html

Harvard Department of Molecular & Cellular Biology Links:
http://mcb.harvard.edu/BioLinks.html

(7) Facilities and resources mandatory for course completion:

Data show for power point presentations

Library

Computers

Course coordinator: Dr. Shireen Mazroa

Head of the department: Prof Dr. Salwa Gawish

Date: 1/5/2016