COURSE SPECIFICATION
Elective course
(Chemistry of Respiration)
Faculty of Medicine- Mansoura University

(A) Administrative information

(1) Programme offering the course:	Master degree of Basic Medical Sciences in Biochemistry
(2) Department offering the programme:	Medical Biochemistry Department
(3) Department responsible for teaching the course:	Medical Biochemistry Department
(4) Part of the programme:	2nd part
(5) Date of approval by the Department`s council	29/4/2018
(6) Date of last approval of programme specification by Faculty council	
(7) Course title:	Chemistry of Respiration
(8) Course code:	BIC 504 CR
(9) Total teaching hours:	30 hours
(10) Total credit hours:	2 hours

(B) Professional information

(1) Course Aims:

Provide candidate with an intelligible outline of the elements of respiration and acid-base regulation, in addition to understand the underlying mechanism of acid-base deregulation.

(2) Intended Learning Outcomes (ILOs):

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

A- Knowledge and Understanding:

AV.1:

AV.a: Respiration:

AV.a.1: Explain diffusion of gases in the lung.

AV.a.2: Describe transport of oxygen by the blood

AV.a.3: Mention factors affecting dissociation of oxyhaemoglobin

AV.a.4: Define carboxyhaemoglobin

AV.a.5: Describe transport of CO2 in the blood

AV.a.6: Discuss chloride shift

AV.b: Acid-base regulation:

AV.b.1: Define acid, base, PH

AV.b.2: Study regulation of PH of the blood

AV.b.2.a: Describe Buffer system of the body

AV.b.2.b: illustrate mechanism of action

AV.b.2.c: define PK

AV.b.2.d: Explain examples of buffer system of the body

a. Bicarbonate buffer system
b. Phosphate buffer system
c. Protein buffer system
d. Hb as a buffering agent

AV.b.2.e: describe role of respiration

AV.b.2.f: explain renal mechanism of PH regulation:

a. Bicarbonate mechanism
b. Phosphate mechanism
c. Ammonia mechanism

AV.b.2.g: illustrate relation of K+ excretion to acid-base equilibrium:

AV.b.2.g1: Define anion gap

AV.c: Acid-base imbalance:

AV.c.1: define Acidosis:, both metabolic & respiratory

AV.c.2: define Alkalosis, both metabolic & respiratory

B- Intellectual skills

BV.1	Formulate a systematic approach for laboratory diagnosis of metabolic complications of diseases
BV.2	Make oral presentation and open discussions about scientific issues in a professional way.

(3) Course content:

Subjects	**No. of Teaching Hours**	
	Lectures	**Laboratory**
1- Respiration	**8**	_
2- Acid-base regulation	**14**	_
3- Acid-base imbalance	**8**	_
Total Teaching hours	**30**	_

(4) Teaching methods:

4.1: Lecture
4.2: Tutorial
4.3: Seminars

(5) Assessment methods:

5.1:Written Examination for assessment of ILOs number **A**42.
5.2 Log book for activities for assessment of: mainly for assessment of practical & transferrable skills which are accepted through attending different conferences, thesis discussions, seminars, workshops, attending scientific lectures as well as self learning.
5.3 seminars: the candidate should prepare and present at least one seminar in atopic related to the course and determined by the supervisors in front of the department staff (without marks).

Assessment schedule:
Assessment 1: after 36 month from job registration (written, exam with marks)
Assessment 2 : MCQ exams at the end of each semester
Assessment 3: the candidate should prepare and present at least one seminar in atopic related to the course and determined by the supervisors in front of the department staff (without marks).

Percentage of each Assessment to the total mark:
Written exam: 40 marks
MCQ exam: 10 marks

Other assessment without marks:, seminars and log book assessment are requirement of the 2nd part exam.

(5) References of the course:

6.1: Text books:

- Fundementals of Biochemistry, 10th edition, by Dr A C Deb, New Central Book Agency (P) Ltd, LONDON, 2011.
- Medical Biochemistry, 1st edition, by AR Aroor, JAYPEE BROTHERS, 2011.
- Text book of Medical Biochemistry, 7th edition, by Chatterjea MN and Shinde R, JAYPEE BROTHERS, New Delhi, India, 2007.

6.2: Websites:

- http://www.medlib.iupui.edu/ref/biochem.htm
- 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

(6) Facilities and resources mandatory for course completion:

- Lecture rooms: available in the department

Course coordinator: Stuff members of credit committee of the department.
Head of the department: Prof. / Ayman El-Baz.
Date: 29/4/2018