Course Specifications

General Information

Course name	Basic Biochemistry
Course number	MEDI2328
Faculty	
Department	
Course type	Major Needs
Course level	2
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - To demonstrate the major constituents of cell, Biomolecules, water, acid-base, buffers, Henderson-Hasselbach equation

2 - To illustrate carbohydrates classification, structure, properties, etc

3 - To discuss the proteins classification, structure, amino acids etc

4 - To understand the lipids classification, structure, cell membrane, membrane transport process... fat soluble vitamins

5 - To demonstrate the Nucleic acids transport of glucose from blood to cells

6 - To illustrate the Bioenergetics, enzymes, properties, function, mode of action, Michaelis-Menten equation, enzyme inhibitors

Course Contents

1 - Introduction and course outline
2 - The major constituents of cell, Biomolecules
3 - Water / Weak bonds / Weak acids and bases
4 - Ionizations / pH / Titrations / Buffers
5 - Amino acids & peptides
6 - Protein primary (1 , 2,) structure
7 - Protein structure: 3, 4
8 - Denaturation and refolding
9 - Carbohydrates: classification, structure, properties and monosaccharides.
10 - Carbohydrates: Oligosaccharide; Disaccharides & Polysaccharides
11 - Carbohydrates: Glycobiology & optical activity
12 - Lipids: introduction, classes of lipids
13 - Lipids: Fatty acids / phospholipids
14 - Biological membranes: Structure & transport
15 - Fat soluble vitamins
16 - Nucleotides & Nucleic acids
17 - DNA structures / RNAs Methods: DNA sequencing
18 - Enzymes, properties, function
19 - Mode of action, Michaelis-Menten equation
20 - Enzyme inhibitors

Teaching and Learning Methods

1 - lectures
2 - seminars
3 - discussion
4 - assiement

Teaching and Learning Methods for the Disabled Students

1 - teaching will be concerned according to the type of students disability

Students Assessment

Assessment Method	TIME	MARKS
First hour exam	week no 5	20
Second hour exam	week no 7	20
attendance and discussion		10
Final exam	week no 15	50

Books and References

Essential books	Campbell, Mary K., Shawn O. Farrell, and Owen M. McDougal. Biochemistry. Nelson Education, 2016.