Course Specifications

University	Beni-Suef
Faculty	Pharmacy
Dept.	Biochemistry

1-Course Info.
Programme(s) on which the course is given: General Program / Bachelor of pharmaceutical sciences
Course Name and code No.: Biochemistry 1 (701)
Academic year/ Level: 2019-2020 / Third Year, First semester
Credit hours: Lecture (…3..) hour + Practical (…1..) hour

2-Overall Aim of the Course

The aim of the course for students is to develop an understanding of basic principles of biological chemistry of proteins , enzymes, porphyrin, cell structure and other related topics. In addition, students master safe handling of chemicals in the laboratory in accordance with relevant regulations.

3-Intended Learning Outcomes of the course (ILOs)

a. Knowledge and understanding

After completing the course, the students should be able to :

a1- Identify the function of the major organelles found in cells.

a2- Define the basic chemistry and physicochemical properties of proteins

a3- Describe the general characters of enzymes, mechanism, kinetics, and regulation of enzyme function.

a4- Illustrate the porphyrins structure, types, function as well as bilirubin metabolism and its associated disorders.

a5- Describe the structure, function, and replication of DNA.

a6- Discuss cell respiration, including, electron transport chain and its coupling with oxidative phosphorylation.

a7- Enumerate the sources of the biological molecules such as mineral and vitamins.

b. Professional and Practical Skills

After completing he course , the student should be able to :

b1- Use the instruments used in the laboratory effectively and safely.

b2- Determine kinetically the enzyme activity in terms of Vmax and Km

b3- Compare the different amino acids and their specific properties.

b4- Examine the physical and chemical properties of the biological fluids such as blood with suitable biochemical tests in accordance with safety measures.

b5- Assess the available data in literature that are related to the biochemical investigation of different diseases.

c. Intellectual Skills

c1- Correlate the biological changes associated with diseases with the causative agents.

c2- Adapt the proper laboratory skills in dealing with chemicals and biological samples.

c3- Evaluate the different information resources available in the biochemistry field.

c4- Compare the different methods used in isolation and purification of proteins.

d. General and Transferable Skills

After completing the course, the student should be able to :

d1- Show ability to conduct tasks based on quality measures.

d2- Establish an oral and written communicating skills in a confident and professional manner.

d3- Perform as a part of a team or alone in an effective way.

d4- Recognize the major steps of scientific thinking in problem solving.

d5- Design suitable time tables and plans to meet the required targets.

4-Course Contents		
Topics	**No. of hours**	
	Tutorial / Practical	**Lecture**
1- The cell	-	3
2- Chemistry of amino acids and protein.	3	6
3- Enzymes	3	6
4- Prophyrins	1	6
5- Nucleic acids	-	6
6- Electron transport chain	-	3
7- Minerals and Vitamins	2	6
Practical activity: Poster presentation	3	
Total	12	36

٥- Teaching and learning Methods

1- Lectures

2- Practical laboratory work.

3- Students assignments.

7- Student Assessment Methods

a-Methods

1- Laboratory work evaluation

2- Students activities

3- Quizzes

4- Practical exam

5- Written final exam

6- Oral exam

b- Assessment Schedule

Assessment 1: Quiz……Week 3- 4

Assessment 2: Practical exam……..…Week 12-13

Assessment 3: Students activities ……..…Week 14

Assessment 4: Final written exam…… Week 14 - 16*

Assessment 5: Final oral exam……...Week 14 - 16*

* According to exam schedule.

c- Weighting of Assessment Marks

Type of Assessment	Marks	Weight (%)
Practical exam and semester work evaluation	70	35%
Final Written exam	100	50%
Final Oral exam	30	15%
Total	**200**	**100%**

8-List of References

a. Notes

" Biochemistry I notes" prepared by staff members of the Biochemistry department.

b. Mandatory Books

Lippincott Illustrated Reviews: Biochemistry (Lippincott Illustrated Reviews Series) by Richard A. Harvey, Denise R. Ferrier. LWW; 5th edition.

c. Suggested Books

-Harper's Biochemistry, 30th Edition. Victor W. Rodwell, David Bender, Kathleen M. Botham , Peter J. Kennelly, P. Anthony Weil. Publisher: Appelton & Lange.

d. Journals

https://en.wikipedia.org/wiki

Course Coordinator: dr. Rasha M. Hussein

Head of department: Prof. Dr. Mohamed Kandeil

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Date: ……