



Course Description for Biochemistry-1st Semester (Theoretical)

Performance review of higher education institution (assessment of the academic program)

This course description summarizes the key characteristics and anticipated learning objectives for students, assessing their utilization of available learning resources, and must be aligned with the program description.

1. Educational Institution	Al-Zahrawi University
2. College	Pharmacy
3. Course Name / Code	biochemistry / PCLS 36
4. Programs in which it is included	Bachelor of Pharmacy
5. Available Forms of Attendance	Daily Attendance
6. Semester / Year	1st semester
7. Total Number of Study Hours	45 hrs
8. Date of preparing this description	2025-2024
9. Course Objectives: Integrating the core concepts that describe the traditional main topics in biochemistry: structure and metabolism. By the end of the semester, students should be able to understand the chemical composition and function of all the biomolecules present in living organisms.	
1. Learning Outcomes, Teaching and Learning Methods, and Evaluation	

A. Knowledge and Understanding

- 1- Study of the basic chemical compounds (carbohydrates, proteins, fats, amino acids, hormones).
- 2- Study of the biological functions and the roles of the above compounds in the human body.
- 3- Study of the physical and chemical properties, and the synthesis of some of the above compounds in the human body.
- 4- Study of enzyme functions, their classifications, mechanisms of action, and their inhibition and activation (agonists and antagonists).

B. Subject-Specific Skills

- ☐ 1-Teaching skills in biochemistry.
- ☐ 2-The student should have the ability to describe and illustrate models.
- ☐ 3-The student should have the ability to link causes with natural effects..

Teaching and Learning Methods

1. Discussion and dialogue method.
2. Troubleshooting and treatment.
3. Seminars.

C. Evaluation Methods

1. Oral discussions in the classroom and written exams.
2. Midterm exams and end-of-semester exams.
3. Daily assignment reports.

D. Thinking Skills

- D1. Encourage students to find problems related to the subject of study
- D2. Encourage students to find solutions to those problems
- D3. Conduct experiments individually and collectively.
- D4. Compare results and troubleshoot

E. General and Transferable Skills

- D1. The student should be able to think logically to solve problems
- D 2. The student should acquire manual work skills.
- D 3. The student should be able to develop and innovate skills

11. Course Structure					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	3	Knowledge	Biochemistry- introduction	Blackboard and Screen Presentations	Daily exam and oral questions
2	3	Knowledge	Carbohydrates	Blackboard and Screen Presentations	Daily exam and oral questions
3	3	Knowledge	monosaccharaides	Blackboard and Screen Presentations	Daily exam and oral questions
4	3	Knowledge	disaccharides	Blackboard and Screen Presentations	Daily exam and oral questions
5	3	Knowledge	polysaccharides	Blackboard and Screen Presentations	Daily exam and oral questions
6	3	Knowledge	Lipids	Blackboard and Screen Presentations	Daily exam and oral questions
7	3	Knowledge	Fatty acids	Blackboard and Screen Presentations	Daily exam and oral questions
8	3	Knowledge	Amino acids	Blackboard and Screen Presentations	Daily exam and oral questions
9	3	Knowledge	Proteins structure	Blackboard and Screen Presentations	Daily exam and oral questions
10	3	Knowledge	Enzymology	Blackboard and Screen Presentations	Daily exam and oral questions
11	3	Knowledge	Classification of enzymes	Blackboard and Screen Presentations	Daily exam and oral questions
12	3	Knowledge	Enzymes kinetics	Blackboard and Screen Presentations	Daily exam and oral questions

13	3	Knowledge	Metabolic diseases	Blackboard and Screen Presentations	Daily exam and oral questions
14	3	Knowledge	Vitamins	Blackboard and Screen Presentations	Daily exam and oral questions
15	3	Knowledge	Nutrition	Blackboard and Screen Presentations	Daily exam and oral questions

12. Infrastructure	
Required Readings:	References: <i>Harpers illustrated biochemistry , 26 edition¹</i>
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites:

13. Admission:	
Prerequisites	Admission according to the central plan
Minimum Number of Students	/
Maximum Number of Students	Admission exceeds the capacity plan

Name of the Instructor: Dr. Balsam Ghazi Hassan

