Course Description Form

1. Course Name:
Biochemistry
2. Course Code:
BIC204
3. Semester / Year:
Second semester (Spring) / 2024-2025
4. Description Preparation Date:
1/2/2025
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
2 theoretical hours + 3 practical hours (75 hours) / 3.5 units
7. Course administrator's name (mention all, if more than one name)
Name: Dr.Yuosra Amer Ali Email: yuosra_amer@uomosul.edu.iq Name: Tamadhur turki khala Tamadhur.tu@uomosul.edu.iq

8. Course Objectives	
Theoretical: Enabling the student to understand and comprehend w is related to food compounds and their importance. Providing students with knowledge, teaching modern principles and methods in studying biochemical scienc and using modern technologies in practical study in laboratories.	Practical: Enabling the student to become familiar w the principles and modern methods of studying biochemical sciences as well as studying Synthesis of proteins, carbohydrates, and f and the tests performed on them.

9. Teaching and Learning Strategies	
Theoretical: Interactive lecture. -Brainstorming. -Dialogue and discussion. -Assigning tasks and reporting. The student is assigned to prepare a report entitled from his own diligence and prepares it for discussion with the students. - Assigning group work to reveal leadership skills.	Practical: - Assigning group work to reve leadership skills. Assigning tasks and reporting for ea experiment.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method

جامعة الموصل
كلية التراث والعلوم
قسم علوم الاشعلية

1	2theoretical 3 practical	Theory: a1: Understand th concept of cell biology and its components (general propertie of the cell). Practical: b1: Understand laboratory safety procedures.	theoretical: The cell and its components. practical: applies rules And safety specifications in laboratories.	Auditory methods, writing method on t board, direc dialogue method	Short exams assignments, discussions Short exams assignments, discussions
2	2theoretical 3 practical	Theory: C1: Explain the nature of water, solutions, and pH the body. Practical: A1: Understand carbohydrates and their types.	theoretical: Water and pH practical: Classified Carbohydrates of kinds.	Auditory methods, writing method on t board, direc dialogue method	Short exams assignments, discussions
3	2theoretical 3 practical	Theory: A2: Understand t nature of carbohydrates and their biological ar physiological functions. Practical: B2: Perform gene carbohydrate tests	theoretical: Carbohydrates practical: Solubility test And the Mulch tes	Auditory methods, writing method on t board, direc dialogue method	Short exams assignments, discussions
4	2theoretical 3 practical	Theory: A1: Understand derived monosaccharides and oligosaccharides. Practical: C2: Identify some types of carbohydrates.	theoretical: Classification of carbohydrates practical: the exams Carbohydrate reductionism	Auditory methods, writing method on t board, direc dialogue method	Short exams assignments, discussions

جامعة الموصل
كلية الزراعة والغابات
قسم علوم الاغذية

5	2theoretical 3 practical	Theory: C1: Explain the structure, functio and classification lipids. Practical: A1: Identify descriptive tests f carbohydrates.	theoretical: Fats practical: Hydrolysis of sucrose And iodine test And hydrolysis of starch With mineral acid	Auditory methods, writing method on t board, direc dialogue method	Short exams assignments, discussions
6	2theoretical 3 practical	Theoretical: A1: Identify complex (conjugated) lipid Practical: B1: Demonstrate skill in performin specific lipid tests	theoretical: Complex fats practical: Special tests With fat	Auditory methods, writing method on t board, direc dialogue method	Short exams assignments, discussions
7	2theoretical 3 practical	Theoretical: A2: Understand t most important li derivatives (saturated and unsaturated fatty acids). Practical: C1: Demonstrate the method of detecting glycerol	theoretical: Derived fats practical: Acrolein test To detect choleste	Auditory methods, writing method on t board, direc dialogue method	Short exams assignments, discussions
8	2theoretical 3 practical	Theoretical: A1: Identify the general properties of amino acids an the classification amino acids. Practical: B1: Demonstrate skill in identifyin buffer solutions.	theoretical: amino acids practical : pH	Auditory methods, writing method on t board, direc dialogue method	Short exams assignments, discussions
9	2theoretical 3 practical	Theoretical: A1: Identify	theoretical: Peptides	Auditory methods,	Short exams assignments,

جامعة الموصل
كلية الزراعة والغابات

		peptides and pept bonds in proteins. Practical: B1: Demonstrate skill in performin general and descriptive tests f amino acids.	practical : General tests And the descriptic of acids Amino	writing method on t board, direc dialogue method	discussions
10	2theoretical 3 practical	Theory: A1: Identify proteins and their biological and physiological functions. Practical: A2: Understand general and descriptive tests f amino acids.	theoretical: Learn about the process of theoretical: Biological functio of proteins practical : Detection of acids Amino containing Sulfur	Auditory methods, writing method on t board, direc dialogue method	Short exams assignments. discussions
11	2theoretical 3 practical	Theory: A1: Identify plasr proteins. Practical: B2: Perform the Millon test and th xanthoprotic test.	theoretical: Plasma proteins practical: Mellon test And xanthoprotic test	Auditory methods, writing method on t board, direc dialogue method	Short exams assignments. discussions
12	2theoretical 3 practical	Theory: A1: Identify enzymes and thei properties. Practical: A2: Understand descriptive tests f proteins.	theoretical: Enzymes practical: the exams Description of proteins	Auditory methods, writing method on t board, direc dialogue method	Short exams assignments. discussions
13	2theoretical 3 practical	Theory: C1: Explain vitamins and thei classification. Practical:	theoretical: Vitamins practical: Biuret test	Auditory methods, writing method on t board, direc dialogue	Short exams assignments. discussions

جامعة الموصل
كلية الزراعة والغابات
قسم علوم الاغذية

		B1: Perform the biuret test.		method	
14	2theoretical 3 practical	Theory: C1: Explain mine elements and thei classification. Practical: C2: Explain how proteins are precipitated by heavy metal salts.	theoretical: Metal elements practical: Precipitation of proteins With heavy metal salts	Auditory methods, writing method on t board, direc dialogue method	Short exams assignments, discussions
15	2theoretical 3 practical	Theory: A1: Understand metabolism in the body. Practical: A2: Conduct a scientific visit to a biochemistry laboratory.	theoretical: Metabolism practical: A scientific visit t someone Biochemistry laboratories	Auditory methods, writing method on t board, direc dialogue method	Short exams assignments, discussions

11. Course Evaluation

No.	Evaluation methods	Evaluation date (week)	Grade	Relative weight%
1	Final theoretical report,	week 15	7 theoretical 6 practical	13%
2	Short test (1) Quiz	a week (3)	4 theoretical 2 practical	6%
3	Midterm Exam	week (9)	10 theoretical 5 practical	15%
4	Short test (2) Quiz	week (12)	4theoretical 2 practical	6%
5	Final practical exam	practical exams week	20	20%
6	Final theoretical exam	theoretical exams week	40	40%
	The Total		100	100%

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Fo Dalali, Basil Kamel, 1994, Basics of ochemistry, Dar Al-Kutub for Printing and Publishing, Mosul, Iraq.

قسم علوم الاغذية

Main references (sources)	Dalali, Basil Kamel, 1994, Basics of Biochemistry, Dar Al-Kutub for Printi and Publishing, Mosul, Iraq.
Recommended books and references (scientific journals, reports...)	- Voet, D. Voet J.G . Biochemistry. - Nelson, D. L., Lehninger Principles of Biochemistry. - Robyt. J.F., White, B. J . Biochemical Techniques (Theory and Practice).
Electronic References, Websites	World Health Organization, Food and Drug Administration.

Course administrator's name :

Dr. Yuosra Amer Ali

Practical part teacher :-
Tamadhur Turki khala

Head of Scientific council:-
Dr.Taha Mohammed Taki

Head of Department:-
Dr.Taha Mohammed Taki

جامعة الموصل
كلية الزراعة والغابات
قسم علوم الاغذية