Course Description Form

1. Course Name:
Biochemistry
2. Course Code:
BIC204
3. Semester / Year:
The second semester / 2 Stage /2023-2024
4. Description Preparation Date:
1/2/2024
5. Available Attendance Forms:
Attendance
6. Number of Credit Hours (Total) / Number of Units (Total)
Theoretically 2/3 practical (5 hours) / 3.5 unit
7. Course administrator's name (mention all, if more than one name)
Name: Dr. Yuosra Amer Ali Email: yuosra_amer@uomosul.edu.iq Afkar Yahya Ahmed
8. Course Objectives
Theoretical: Enabling the student to understand and comprehend what is related to food compounds and their importance. Providing students with knowledge, teaching modern principles and methods in studying biochemical sciences, and using modern technologies in practical study in laboratories. Practical: Enabling the student to become familiar with the principles and modern methods of studying biochemical sciences as well as studying Synthesis of proteins, carbohydrates, and fats and the tests performed on them.
9. Teaching and Learning Strategies

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.
-Assigning group work to reveal leadership skills.
- Assigning tasks and reporting for each experiment.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2theoretical	B1:Explains the concept of cell science and its components (general propertie of the cell)	The cell and its components.	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions Short exams, assignments , discussions
	3 practical	B1:Safety in Laboratories	applies rules And safety specifications in laboratories.	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions Short exams, assignments , discussions
2	2theoretical	C1:Explains the nature of water, solutions, and pH the body.	Water and pH	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions
	3 practical	A1:Carbohydrate And its types.	Classified Carbohydrates of kinds.	Auditory methods, writing method on the board, direct	Short exams, assignments , discussions

				dialogue method	
3	2theoretical	B2:He is familiar with the nature of carbohydrates and their biological ar physiological functions.	Carbohydrates	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions
	3 practical	B2:the exams General carbohydrates	Solubility test And the Mulch te	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions
4	2theoretical	A2:Identify deriv monosaccharides and oligosaccharides.	Classification of carbohydrates	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions
	3 practical	A2:Tests Carbohydrates	the exams Carbohydrate reductionism	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions
5	2theoretical	C2:Explains the structure, functio and classification fats.	Fats	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions
	3 practical	B3:the exams	Hydrolysis of	Auditory	Short

		Descriptive For carbohydrates	sucrose And iodine test And hydrolysis of starch With mineral acid	methods, writing method on the board, direct dialogue method	exams, assignments , discussions
6	2theoretical	A2:Recognizes complex (conjugated) lipid	Complex fats	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions
	3 practical	B4:Fats	Special tests With fat	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions
7	2theoretical	B3:The most important fats are derived fatty acid (saturated and unsaturated)	Derived fats	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions
	3 practical	B5:Tests To detect Clycerol	Acrolein test To detect cholesterol	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions
8	2theoretical	A3:Recognizes th general properties of amino acids an the division of	amino acids	Auditory methods, writing method on	Short exams, assignments , discussions

		amino acids.		the board, direct dialogue method	
	3 practical	A3:Structured solutions	Ph	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments, discussions
9	2theoretical	A4:Understands peptides and peptide bonds in proteins.	Peptides	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments, discussions
	3 practical	A4:amino acids	General tests And the descriptio of acids Amino	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments, discussions
10	2theoretical	A5:Understands proteins and the biological and physiological functions of proteins.	Learn about the process of Biological functio of proteins	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments, discussions
	3 practical	A4:amino acids	Detection of acids Amino containing Sulfur	Auditory methods, writing method on the board, direct dialogue	Short exams, assignments, discussions

				method	
11	2theoretical	A6:Identifies plasma proteins	Plasma proteins	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments, discussions
	3 practical	B6:amino acids	Mellon test And xanthoprotic test	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments, discussions
12	2theoretical	A7:Understands enzymes and thei properties.	Enzymes	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments, discussions
	3 practical	A6:Proteins	the exams Description of proteins	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments, discussions
13	2theoretical	C3:Explains vitamins and thei classification.	Vitamins	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments, discussions
	3 practical	C1:Proteins	Biuret test	Auditory methods,	Short exams,

				writing method on the board, direct dialogue method	assignments , discussions
14	2theoretical	C4:Explains mineral elements and their classification.	Metal elements	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions
	3 practical	A7:Proteins	Precipitation of proteins With heavy metal salts	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions
15	2theoretical	A8:Describes the body's metabolisr	Metabolism	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions
	3 practical	A8:Solve the problem	A scientific visit t someone Biochemistry laboratories	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions

11. Course Evaluation

No.	Evaluation methods	Evaluation date (week)	Grade	Relative weight%
1	Final theoretical	week 15	7 theoretical	13%

	report,		6 practical	
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 iochemistry, Dar Al-Kutub for Printing .and Publishing, Mosul, Iraq
Main references (sources)	Dalali, Basil Kamel, 1994, Basics of Biochemistry, Dar Al-Kutub for Printing 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.

Instructor of theoritical part

Dr. Yuosra Amer Ali

Instructor of practical part

Afkar Yahya Ahmed

Chairman of the scientific committee

Prof. Dr. Moafak mahmood ahmed

Head of the department of Food science

Prof. Dr. Sumaya khalaf badawi