







Course Description Form

1. Course Name:

Biochemistry

2. Course Code:

BICH204

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.

Provided	- Assigning tasks and reporting for each experiment.							
2 theoretical B1:Explains the concept of cell science and its components (general propertice of the cell) Specifications in laboratories B1:Safety in Laboratories B1:Explains the nature of water, solutions, and pH the body. Short methods, writing method on the board, direct dialogue method Short								
concept of cell science and its components (general propertie of the cell) 3 practical B1:Safety in Laboratories And safety specifications in laboratories. C1:Explains the nature of water, solutions, and pH the body. 3 practical A1:Carbohydrate And its types. And its types. Components. components. methods, writing method on the board, direct dialogue method on the board.			Learning Outcomes	name	method	Evaluation method		
3 practical B1:Safety in Laboratories And safety specifications in laboratories. Writing method on the board, direct exame dialogue method on the board, direct exame sasign method on the board, direct dialogue method on the board, direct exame sasign method on the board, direct exame assign method on the board.	1 2	2theoretical	concept of cell science and its components (general properties	components.	methods, writing method on the board, direct dialogue	Short exams, assignments , discussions Short exams, assignments , discussions		
nature of water, solutions, and pH the body. The board, direct dialogue method The board, direct dialogue method on the board, direct dialogue method dialogue method on the board, direct dia	3	3 practical	•	And safety specifications in	methods, writing method on the board, direct dialogue	Short exams, assignments , discussions Short exams, assignments , discussions		
And its types. Carbohydrates of kinds. Carbohydrates of writing assign method on the board, direct	2 2	2theoretical	nature of water, solutions, and pH	-	methods, writing method on the board, direct dialogue	Short exams, assignments, discussions		
method	3	3 practical		Carbohydrates of	methods, writing method on the board, direct dialogue	Short exams, assignments, discussions		
with the nature of carbohydrates and their biological an physiological functions. with the nature of carbohydrates and their biological and physiological the board, direct dialogue method			with the nature of carbohydrates and their biological ar physiological functions.		methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions Short		

		General	And the Mulch te	•	exams,
		carbohydrates		writing	assignments
				method on	, discussions
				the board,	
				direct	
				dialogue	
				method	
4	2theoretical	A2:Identify deriv	Classification of	Auditory	Short
		monosaccharides	carbohydrates	methods,	exams,
		and		writing	assignments
		oligosaccharides.		method on	, discussions
				the board,	
				direct	
				dialogue	
				method	
	3 practical	A2:Tests	the exams	Auditory	Short
		Carbohydrates	Carbohydrate	methods,	exams,
			reductionism	writing	assignments
				method on	, discussions
				the board,	
				direct	
				dialogue	
				method	
5	2theoretical	C2:Explains the	Fats	Auditory	Short
		structure, function		methods,	exams,
		and classification		writing	assignments
		fats.		method on	, discussions
				the board,	,
				direct	
				dialogue	
				method	
	3 practical	B3:the exams	Hydrolysis of	Auditory	Short
	1	Descriptive	sucrose	methods,	exams,
		For carbohydrates	And iodine test	writing	assignments
			And hydrolysis of	_	, discussions
			starch	the board,	,
			With mineral acid		
			*** 1011 11111101011 0010	dialogue	
				method	
6	2theoretical	A2:Recognizes	Complex fats	Auditory	Short
~		complex		methods,	exams,
		(conjugated) lipid		writing	assignments
		(conjugated) lipit		method on	, discussions
				the board,	, discussions
				direct	
				unect	

				dialogue method	
	3 practical	B4:Fats	Special tests With fat	Auditory methods, writing method on the board, direct	Short exams, assignments , discussions
7	2theoretical	B3:The most	Derived fats	dialogue method Auditory	Short
		important fats are derived fatty acid (saturated and unsaturated)		methods, writing method on the board, direct dialogue method	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 the general properties of amino acids and the division of amino acids.		Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments , discussions
	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	Peptides	Auditory methods, writing	Short exams, assignments

				,1 1	1
		proteins.		method on	, discussions
				the board,	
				direct	
				dialogue	
				method	
	3 practical	A4:amino acids	General tests	Auditory	Short
			And the description	methods,	exams,
			of acids	writing	assignments
			Amino	method on	, discussions
				the board,	
				direct	
				dialogue	
				method	
10	2theoretical	A5:Understands	Learn about the	Auditory	Short
		proteins and the	process of	methods,	exams,
		biological and	Biological function	writing	assignments
		physiological	of proteins	method on	, discussions
		functions of		the board,	
		proteins.		direct	
				dialogue	
				method	
	3 practical	A4:amino acids	Detection of acids	Auditory	Short
			Amino containing	•	exams,
			Sulfur	writing	assignments
				method on	, discussions
				the board,	, 015005510115
				direct	
				dialogue	
				method	
11	2theoretical	A6:Identifies	Plasma proteins	Auditory	Short
1.1	Zincorenear	plasma proteins	Trasma proteins	methods,	exams,
		prasma proteins		writing	assignments
				method on	, discussions
				the board,	, discussions
				direct	
				dialogue	
				method	
	3 prostical	B6:amino acids	Mellon test	Auditory	Short
	3 practical	Bo.amino acius			
			And xanthoprotic	methods,	exams,
			test	writing	assignments
				method on	, discussions
				the board,	
				direct	
				dialogue	
				method	

12	2theoretical	A7:Understands	Enzymes	Auditory	Short
12	Zuicorcucal	enzymes and their properties.	Enzymes	methods, writing method on	exams, assignments , discussions
				the board, direct dialogue	, 0.10000010110
	3 practical	A6:Proteins	the exams Description of proteins	method Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments, discussions
13	2theoretical	C3:Explains vitamins and their classification.	Vitamins	Auditory methods, writing method on the board, direct dialogue method	Short exams, assignments, discussions
	3 practical	C1:Proteins	Biuret test	Auditory methods, writing method on the board, direct dialogue method	Short exams, 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,	Short exams, assignments, discussions

		•						
						direct		
						dialogue		
						method		
15	2theoretical	A8:Descr	ibes the	Metabolisn	n	Auditory	Short	
		body's me	etabolisr			methods,		
						writing	assignments	
						method o		
						the board	,	
						direct	''	
						dialogue		
						method		
	3 practical	A8:Solve	the	A scientific	visit t		Short	
	3 praetical	problem	tiic	someone	VISIC C	methods,		
		prodicin		Biochemist	trs7	writing	assignments	
				laboratorie	•	method o		
				iaboratorie	3	the board	,	
						direct	·,	
						dialogue		
						method		
	11. Cours	A Evaluatio	'n			memou		
11. Course Evaluation								
No.	Evaluation	valuation methods Evalu		ation date Grade		2	Relative	
			(week				weight%	
1	Final theore	/		·	7 theo		13%	
	report,	oretical week		a week (3) 6 prac 4 theo				
2	•						6%	
		Short test (1) Quiz		2 pr				
3	Midterm Ex		week	(9)	-	eoretical	15%	
	1,110,01111 22		, , coll		5 prac			
4	Short test (2	2) Oniz	week (week (12) 4theo			6%	
	Short test (2	z) Quiz	WCCK	2 prac			070	
5	Final practi	cal exam	practic	practical exams 20		cticui	20%	
	T mai practi	cai chain	week				2070	
6				etical exams 40			40%	
	exam week		ticai exams	10		14070		
	The Total				100		100%	
	12. Learning and Teaching Resour						10070	
Required textbooks (curricular books, if any) Fo Dalali, Basil Kamel, 1994, Basics of								
- Toquii					-		utub for Printing	
					•		ning, Mosul, Iraq	
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Main references (sources)				⊥ Dala	Dalali, Basil Kamel, 1994, Basics of			
							-	
	ererences (sour	,		Bioc	hemist	ry, Dar Al	-Kutub for ng, 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.



Dr. Yuosra Amer Ali



Afkar Yahya Ahmed



 $\label{eq:head} \begin{tabular}{ll} Head of the Department of Horticulture and Landscape Design \\ Prof. Dr. \begin{tabular}{ll} Asmaa \\ Muhammad Adel \\ \end{tabular}$

Head of the Scientific Committee Prof. Dr. Nabil Muhammad <u>amin</u> Al-<u>Alamam</u>