## **Course Description Form**

1. Cours	se Name:			
Clinical Che	mistry			
Biochemistry	y			
2. Course Code:				
3. Seme	ster / Year:			
2023/2024				
4. Descr	ription Preparation Date:			
5/3/2024				
5. Availa	able Attendance Forms:			
Lectu	re room,, Practical lab			
6. Numb	per of Credit Hours (Total) / Nu	umber of Units (Total)		
	ours theoretical lectures			
60 ho	ours practical lectures			
7. Course administrator's name (mention all, if more than one name)				
Name: Email:				
Lecturer Ihsan Shakir Mahmood ihsan.mahmood@uobasrah.edu.iq				
8. Course Objectives				
The branch seeks to be known and distinguished in the field of of biochemistry and clinical chemistry in Basra in particular and Iraq in general, by explaining and teaching these subjects to students of medical colleges and other supporting colleges, and preparing qualified graduates professionally and academically to carry out advanced laboratory and diagnostic work in health institutions, as well as educational tasks in academic institutions.				
9. Teach	ning and Learning Strategies			
Strategy	<ol> <li>Theoretical Lectures</li> <li>Practical Lessons and clinical cases</li> <li>Small Groups teaching</li> <li>Online Lectures</li> </ol>			
10. Course	Structure			

Chemistry   Clinical   Lectures   Talks\exameliation   Clinical   Lectures   Clinical   Lectures   Clinical   Lectures   Clinical   Chemistry   Clinical   Lectures   Clinical   Lectures   Chemistry   Clinical   Lectures   Chemistry   Chemistry   Chemistry   Clinical   Practical\ small   Talks\exameliation   Talks\exameliation   Clinical   Practical\ small   Talks\exameliation   Practica	Week	Hours	Required Learning	Unit or	Learning	Evaluation
14-15			Outcomes	subject	method	method
Chemistry   Clinical   Lectures   Talks\examelians				name		
Talks\exam   Tal	14-15	4	Lipid Chemistry	Clinical	Lectures	Talks\exams
Chemistry   Chemistry   Chemistry				chemistry		,
Clinical chemistry	16	2	Nucleic Acid Chemistry	Clinical	Lectures	Talks\exams
Chemistry						
1	22	2	Cell Membrane		Lectures	Talks\exams
Instruments						
2-6   30   Titrations   Clinical chemistry group teaching   Talks\example	1	6			<b>`</b>	Talks\exams
Chemistry   group teaching   Talks\exam						_ ,, ,
T-10	2-6	30	Titrations		,	Talks\exams
Carbohydrates   Chemistry   group teaching	7.40	0.4				m 11 \
Talks   Talk	7-10	24			\ \	Talks\exams
Proteins   Chemistry   group teaching	11 11	2.4	<u> </u>			Tallal assassa
15-18   24   Enzymes   Clinical chemistry   Glinical chemistry   Glini	11-14	24			<b>`</b>	Taiks\exams
Chemistry   group teaching   Talks\exame   Practical\ small   Talks\exame   Talks\ex	15 10	24				Tallra\ ayama
18-21   18	15-18	24	Enzymes		,	Taiks\exams
chemistry   group teaching   Talks\exam	10 21	10	Normal urina			Tallre\ overne
3-6   4   Carbohydrates   Biochemistry   Lectures   Talks\exame     11-12   4   Nucleotides metabolism   Biochemistry   Lectures   Talks\exame     25   4   Diagnostic enzymology   Biochemistry   Lectures   Talks\exame     27   4   Cancer chemistry   Biochemistry   Lectures   Talks\exame     1   3   Principle of colorimetry   Biochemistry   Practical\ small   Talks\exame     2   3   Estimation of Alkaline   Biochemistry   Practical\ small   group teaching     3   3   Clinical cases in vitamins   Biochemistry   Practical\ small   Talks\exame     4   3   Estimation of serum   Biochemistry   Practical\ small   Talks\exame     5   3   Point of care testing   Biochemistry   Practical\ small   Talks\exame     6   3   Clinical cases in Diabetes   Biochemistry   Practical\ small   Talks\exame     6   3   Clinical cases in Diabetes   Biochemistry   Practical\ small   Talks\exame     6   3   Clinical cases in Diabetes   Biochemistry   Practical\ small   Talks\exame     6   7   3   Clinical cases in lipids   Biochemistry   Practical\ small   Talks\exame     6   7   3   Clinical cases in lipids   Biochemistry   Practical\ small   Talks\exame     7   3   Clinical cases in lipids   Biochemistry   Practical\ small   Talks\exame     8   Talks\exame     8   Talks\exame     8   Talks\exame     9   Talks\exame     9   Talks\exame     1   Talks\exame	10-21	10			-	Taiks (exailis
metabolism   Biochemistry   Lectures   Talks\exam     25   4   Diagnostic enzymology   Biochemistry   Lectures   Talks\exam     27   4   Cancer chemistry   Biochemistry   Lectures   Talks\exam     1   3   Principle of colorimetry   Biochemistry   Practical\ small   Talks\exam     2   3   Estimation of Alkaline   Biochemistry   Practical\ small   group teaching     3   3   Clinical cases in vitamins   Biochemistry   Practical\ small   group teaching     4   3   Estimation of serum   Biochemistry   Practical\ small   group teaching     5   3   Point of care testing   Biochemistry   Practical\ small   Talks\exam     5   3   Point of care testing   Biochemistry   Practical\ small   Talks\exam     6   3   Clinical cases in Diabetes   Biochemistry   Practical\ small   group teaching     6   3   Clinical cases in Diabetes   Biochemistry   Practical\ small   Talks\exam     6   3   Clinical cases in Diabetes   Biochemistry   Practical\ small   Talks\exam     6   7   3   Clinical cases in lipids   Biochemistry   Practical\ small   Talks\exam     7   3   Clinical cases in lipids   Biochemistry   Practical\ small   Talks\exam     8   Talks\exam   Talks\exam     8   Talks\exam   Talks\exam     8   Talks\exam   Talks\exam     8   Talks\exam   Talks\exam	3-6	4				Talks\evams
Talks\exam   Tal	3 0	1	1	Dioeneninstry	nectures	Tarks (cxams
25   4   Diagnostic enzymology   Biochemistry   Lectures   Talks\exame     27   4   Cancer chemistry   Biochemistry   Lectures   Talks\exame     1   3   Principle of colorimetry   Biochemistry   Practical\ small   group teaching     2   3   Estimation of Alkaline   Biochemistry   Practical\ small   group teaching     3   3   Clinical cases in vitamins   Biochemistry   Practical\ small   group teaching     4   3   Estimation of serum   Biochemistry   Practical\ small   group teaching     5   3   Point of care testing   Biochemistry   Practical\ small   group teaching     6   3   Clinical cases in Diabetes   Biochemistry   Practical\ small   group teaching     6   3   Clinical cases in Diabetes   Biochemistry   Practical\ small   group teaching     7   3   Clinical cases in lipids   Biochemistry   Practical\ small   group teaching     7   3   Clinical cases in lipids   Biochemistry   Practical\ small   group teaching     7   3   Clinical cases in lipids   Biochemistry   Practical\ small   group teaching     6   Talks\exame   Talks\exame     7   Talks\exame   Talks\exame     8   Talks\exame   Talks\exame	11-12	4		Biochemistry	Lectures	Talks\exams
27       4       Cancer chemistry       Biochemistry       Lectures       Talks\exam         1       3       Principle of colorimetry and Standard curve       Biochemistry       Practical\ small group teaching       Talks\exam         2       3       Estimation of Alkaline phosphatase       Biochemistry       Practical\ small group teaching       Talks\exam         3       3       Clinical cases in vitamins       Biochemistry       Practical\ small group teaching       Talks\exam         4       3       Estimation of serum glucose       Biochemistry       Practical\ small group teaching       Talks\exam         5       3       Point of care testing       Biochemistry       Practical\ small group teaching       Talks\exam         6       3       Clinical cases in Diabetes mellitus       Biochemistry       Practical\ small group teaching       Talks\exam         7       3       Clinical cases in lipids       Biochemistry       Practical\ small group teaching       Talks\exam			Diagnostic enzymology			Talks\exams
1 3 Principle of colorimetry and Standard curve 2 3 Estimation of Alkaline phosphatase 3 3 Clinical cases in vitamins Biochemistry group teaching 4 3 Estimation of serum glucose 5 3 Point of care testing 6 3 Clinical cases in Diabetes mellitus 7 3 Clinical cases in lipids 8 Biochemistry Practical\ small group teaching 8 Biochemistry Practical\ small group teaching 9 Practical\ small group teaching	27	4		•		Talks\exams
2 3 Estimation of Alkaline phosphatase  3 3 Clinical cases in vitamins  4 3 Estimation of serum glucose  5 3 Point of care testing  6 3 Clinical cases in Diabetes mellitus  7 3 Clinical cases in lipids  Estimation of serum group teaching  Biochemistry Practical\ small group teaching  Talks\examplexamplexample group teaching  Practical\ small group teaching  Talks\examplexample group teaching	1	3	Principle of colorimetry	Biochemistry	Practical\ small	Talks\exams
phosphatase  Clinical cases in vitamins  Biochemistry  Practical\ small group teaching  Talks\example sample group teaching  Biochemistry  Practical\ small group teaching  Talks\example sample sample			and Standard curve		group teaching	,
3   Clinical cases in vitamins   Biochemistry   Practical\ small group teaching     4   3   Estimation of serum glucose   Biochemistry group teaching     5   3   Point of care testing   Biochemistry practical\ small group teaching     6   3   Clinical cases in Diabetes mellitus     7   3   Clinical cases in lipids   Biochemistry practical\ small group teaching     6   3   Clinical cases in lipids   Biochemistry practical\ small group teaching     7   3   Clinical cases in lipids   Biochemistry practical\ small group teaching     7   3   Clinical cases in lipids   Biochemistry practical\ small group teaching     8   1   1   1   1   1   1   1   1   1	2	3	Estimation of Alkaline	Biochemistry	Practical\ small	Talks\exams
group teaching  4 3 Estimation of serum glucose  5 3 Point of care testing  6 3 Clinical cases in Diabetes mellitus  7 3 Clinical cases in lipids  Biochemistry practical\ small group teaching  Biochemistry practical\ small group teaching  Practical\ small group teaching  Talks\examplexamplexample group teaching  Talks\examplexample group teaching  Talks\example group teaching			phosphatase		group teaching	
4 3 Estimation of serum glucose Biochemistry Practical\ small group teaching  5 3 Point of care testing Biochemistry Practical\ small group teaching  6 3 Clinical cases in Diabetes mellitus  7 3 Clinical cases in lipids Biochemistry Practical\ small group teaching  8 Biochemistry Practical\ small group teaching  7 Talks\examplexample group teaching  8 Biochemistry Practical\ small group teaching  9 Practical\ small group teaching  1 Talks\example group teaching	3	3	Clinical cases in vitamins	Biochemistry	· ·	Talks\exams
glucose  5 3 Point of care testing  6 3 Clinical cases in Diabetes mellitus  7 3 Clinical cases in lipids  Biochemistry practical small group teaching  Biochemistry practical small group teaching  Practical small group teaching  Talks\examplexample group teaching  Talks\example group teaching						
5 3 Point of care testing Biochemistry Practical\ small group teaching 6 3 Clinical cases in Diabetes mellitus 7 3 Clinical cases in lipids Biochemistry Practical\ small group teaching 8 Practical\ small group teaching 9 Practical\ small group teaching 9 Practical\ small group teaching 1 Talks\examplexamplexample group teaching	4	3		Biochemistry	,	Talks\exams
group teaching   Grou						
6 3 Clinical cases in Diabetes mellitus  7 3 Clinical cases in lipids  Biochemistry Practical\ small group teaching  Practical\ small Talks\example example group teaching  Talks\example example group teaching	5	3	Point of care testing	Biochemistry	,	Talks\exams
mellitus group teaching  7 3 Clinical cases in lipids Biochemistry Practical\ small group teaching group teaching		2		D: 1	<u> </u>	m II \
7 3 Clinical cases in lipids Biochemistry Practical\ small group teaching Talks\example example and the second sec	6	3		Biochemistry	,	Talks\exams
group teaching	7	2		Die als ai-t		Tallan\
	'	3	Chinical cases in lipids	biochemistry	<b>`</b>	i aiks \exams
	8	3	Clinical cases in	Biochemistry		Talks\exams
8 3 Clinical cases in diagnostic enzymology Biochemistry Practical\ small group teaching Talks\exam	0	3		biochemistry	•	1 aiks (Exailis
	g	3		Riochemistry		Talks\exams
amylase Biochemistry Fractical Small Tarks (exam		3		Diochemistry	Tractical Siliali	Taiks (Exailis

				group teaching	
10	3	Estimation of blood urea	Biochemistry	Practical\ small	Talks\exams
				group teaching	-
11	3	Clinical cases in nutrition	Biochemistry	Practical\ small	Talks\exams
				group teaching	•
12	3	Estimation of serum	Biochemistry	Practical\ small	Talks\exams
		creatinine		group teaching	•
13	3	Estimation of serum	Biochemistry	Practical\ small	Talks\exams
		creatinine and creatinine		group teaching	•
		clearance			
14	3	Abnormal constituents of	Biochemistry	Practical\ small	Talks\exams
		urine		group teaching	-
15	3	Clinical cases in renal	Biochemistry	Practical\ small	Talks\exams
		diseases		group teaching	
16-17	6	Clinical cases in	Biochemistry	Practical\ small	Talks\exams
		hormones		group teaching	
18	3	Estimation of serum	Biochemistry	Practical\ small	Talks\exams
		calcium and phosphate		group teaching	
19	3	Estimation of serum uric	Biochemistry	Practical\ small	Talks\exams
		acid		group teaching	
20	3	Plasma proteins	Biochemistry	Practical\ small	Talks\exams
				group teaching	
21	3	Clinical cases in liver	Biochemistry	Practical\ small	Talks\exams
		diseases		group teaching	
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## 11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

## 12. Learning and Teaching Resources

12				
Required textbooks (curricular books, if any)	Chemical bases of life			
, , , , , , , , , , , , , , , , , , , ,	Lippincott's Illustrated Reviews:			
	Biochemistry			
	Harper's physiological Chemistry			
Main references (sources)	Chemical bases of life			
, ,	Lippincott's Illustrated Reviews:			
	Biochemistry			
	Harper's physiological Chemistry			
Recommended books and references (scientific	Medical Journals in google scholar.			
,	WHO reports.			
journals, reports)	Pub med journals			
Electronic References, Websites	Web sites in Biochemistry and Clinical			
	Biochemistry			
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