Course Description Form

1. Course Name:
Biochemistry
2. Course Code:
AGPP24_F3131
3. Semester / Year:
First semester (fall) 2024-2025
4. Description Preparation Date:
1/2/2024
5. Available Attendance Forms:
Presence
6. Number of Credit Hours (Total) / Number of Units (Total)
75 hours / 3.5 units
7. Course administrator's name (mention all, if more than one name)
Name: Dr.Arkam Mohamad Alomary and Afkar Yahya Ahmed
8. Course Objectives

Theoretical - To enable students to know the importance of the basic principles of Biochemistry - The importance of the biochemistry program in everyday life and the economic and medical importance of this program _ Finding the best means to explain the proposed program and identify the characteristics of the devices accurately _ How to use modern technology and technologic machines to improve and develop the proposed program _ Enable the student to apply and employ this program and use it as one of the most important criteria for future employment in the communit _ Finding civil and governmental organizations or specializationsWho is interested in this program and how to connect or recruit students By understanding the concepts of Life Technologie	Practical - Enable the student to get acquainted with the principles and methods recent developments in the study of life chemistry Sciences - Study of carbohydrate synthesis Fats, proteins and all the tests that Conducted and disclosed
9. Teaching and Learning Strategies	
Theoretical - Interactive lecture . -dialogue and discussion .	Practical Interactive lecture . -dialogue and discussion .

-Assignment of tasks and report	-Assignment of tasks and report - Practical tests conducted in the laboratory.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2Theoretical 3Practical	**THEORETICAL** **b1** Shows the concept of water And its relation to properties Chemist and Physicist **PRACTICAL** **b1** Applies rules Safety specifications in Laboratories	**THEORETICAL** Water **PRACTICAL** Safety in laboratories	**THEORETICAL** Lectures Audio media Reports and other methods **PRACTICAL** Follow Instructions Found in laborator	discussions
2	2Theoretical 3Practical	**THEORETICAL** **c1** Shows the most important differences in composition Carbohydrate chemis **PRACTICAL** **a1** Classify carbohydrates Types and type	**THEORETICAL** Carbohydrates **PRACTICAL** Carbohydrates and th types	**THEORETICAL** Lectures Audio media Reports and metho Other **PRACTICAL** Procedure Tests Operation	reports Quiz discussions
3	2Theoretical 3Practical	**THEORETICAL** **b2** Familiar with the influencing factors For amino acids **PRACTICAL** **b2** Solubility test is applied and the mulch test	**THEORETICAL** Amino acids: And peptides **PRACTICAL** The tests General principles of carbohydrates	**THEORETICAL** Lectures Audio media Reports and metho Other **PRACTICAL** Procedure Tests Operation	reports Quiz discussions
4	2Theoretical 3Practical	**THEORETICAL** **a1** Recognizes the mechanics of the acti of proteins inside the body	**THEORETICAL** Protein **PRACTICAL**	**THEORETICAL** Lectures Audio media Reports and metho Other	Exams reports discussions

		PRACTICAL **a2** Recognizes carbohydrate reductive tests	The test Carbohydrates	**PRACTICAL** Procedure Tests Operation	
5	2Theoretical 3Practical	**THEORETICAL** **c2** It shows the changes that you get into Felts **PRACTICAL** **b3** Tests types of carbohydrate descript	**Theoretical** lipidis **PRACTICAL** Hydrolysis of sucrose and iodine testing and hydrolysis of star with mineral acids	**THEORETICAL** Lectures Audio media Reports and metho Other **PRACTICAL** Procedure Tests Operation	reports Quiz discussions
6	2Theoretical 3Practical	**THEORETICAL** **c3** Suggests a suitable method For the action of enzymes **PRACTICAL** **b4** Performs lipid-specific tests	**THEORETICAL** Enzymes **PRACTICAL** Special tests With fat	**THEORETICAL** Lectures Audio media Reports and metho Other **PRACTICAL** Procedure Tests Operation	Exams reports Quiz discussions
7	2Theoretical 3Practical	**THEORETICAL** **c4** Notice the changes That you get into the main article and his work with enzymes **PRACTICAL** **a3** Selects fat constan	**THEORETICAL** Basic material **PRACTICAL** Basic material Acrolein testing For the detection of glycerol	**THEORETICAL** Lectures Audio media Reports and metho Other **PRACTICAL** Procedure Tests Operation	reports Quiz discussions
8	2Theoretical 3Practical	**THEORETICAL** **a1** Recognize the most important Changes that enzymes **PRACTICAL** **a2** Understands the pH	**THEORETICAL** Mechanical work Enzymes **PRACTICAL** PH is the pH value	**THEORETICAL** Lectures Audio media Reports and metho Other **PRACTICAL** Procedure Tests Operation	Exams reports Quiz discussions

9	2Theoretical 3Practical	**THEORETICAL** **b2** Judging the efficiency of the work Nucleic acids Inside the body **PRACTICAL** **a2** Specifies general and Descriptive Tests for amino acids	**THEORETICAL** Nucleic acids **PRACTICAL** General tests Description distributi of Acids Aminism	**THEORETICAL** Lectures Audio media Reports and metho Other **PRACTICAL** Procedure Tests Operation	Exams reports Quiz discussions
10	2Theoretical 3Practical	**THEORETICAL** **a2** Identify the most important materials Chemical constituent of DNA **PRACTICAL** **b2** Explains the methods of detection of sulfur-containing amino acids	**THEORETICAL** DNA **PRACTICAL** Acid detection Amino acids containi Sulfur	**THEORETICAL** Lectures Audio media Reports and metho Other **PRACTICAL** Procedure Tests Operation	reports Quiz discussions
11	2Theoretical 3Practical	**THEORETICAL** **b4** Mastered the ingredients The main types of RNA nucleic acids and their types **PRACTICAL** **a6** He tries the Mello test and the xanthoproteic test	**THEORETICAL** RNA **PRACTICAL** Tests Amino acids:	**THEORETICAL** Lectures Audio media Reports and metho Other **PRACTICAL** Procedure Tests Operation	reports Quiz discussions
12	2Theoretical 3Practical	**THEORETICAL** **e1** Defines the components of Basic nucleosides **PRACTICAL** **c1** Recall Descriptive Tests for proteins	**THEORETICAL** Nucleosides **PRACTICAL** The tests Description distribution of protein	**THEORETICAL** Lectures Audio media Reports and metho Other **PRACTICAL** Procedure Tests Operation	Exams reports Quiz discussions
13	2Theoretical	**THEORETICAL**	**THEORETICAL**	**THEORETICAL**	Exams

	3Practical	**a2** Recognize the most important Biological qualities For nucleic acids **PRACTICAL** **a2** The puritanical test is called	Biological qualities For nucleic acids **PRACTICAL** The purite test	Lectures Audio media Reports and metho Other **PRACTICAL** Procedure Tests Operation	reports Quiz discussions
14	2Theoretical 3Practical	**THEORETICAL** **b5** Familiar with the sources of composition and vitamin damage **PRACTICAL** **a3** Characterizes the precipitation of prote with salts of heavy metals	**THEORETICAL** Vitamins **PRACTICAL** Precipitation of prote Salts of heavy metals	**THEORETICAL** Lectures Audio media Reports and metho Other **PRACTICAL** Procedure Tests Operation	Exams reports Quiz discussions
15	2Theoretical 3Practical	**b5** Solves a problem	A scientific visit to one Life chemistry laboratories	Getting to know One-to-One devices and tools f laboratories Life chemistry	Write a report on devices and tests that were identified during scientific visit

11. Course Evaluation

t	Evaluation methods	Evaluation date (one week)	Grade	Relative weight %
1	Final theoretical report + theoretical practical reports	Theoretical 15 weeks Practical 1-15 weeks	7theoretical + 6 practical	13%
2	Short test 1 Quiz	3 weeks	4theoretical + 2practical	6%
3	- Semester exam 1 (theoretical and practical) - Semester exam 2 (theoretical and practical)	5 weeks 10 weeks	10theoretical + 5 practical	15%
4	Short test 2 Quiz	12 weeks	4 theoretical + 2 practical	6%
5	Final practical test	practical exams week	20	20%
6	Final theoretical exam	theoretical exams week	40	40%
			100	100

12. Learning and Teaching Resources

Theoretica Required textbooks (curricular books, if any) Theoretical approach to the course of principles Biotechnology / counter: D. Faten Dhawi Al-Muhanna/ PhD in philosophy Biochemistry science Department of Molecular Biology and Biotechnology	**Practical** The basics of Biochemistry Basil Kamel Al-Dlaly
Main references (sources) A library , scientific sites on the internet, access lectures for other Iraqi universities.	Basics of biochemistry by Basil Kamel Al-Dlaly
Electronic References, Websites	The World Health Organization(WHO) , the US Food and drug organization (USFDA)