جامعة المجمعة
Majmaah University

Course Specifications

Institution:	**Majmaah University**
Academic Department :	**chemistry**
Programme :	**Chemistry**
Course :	**Biochemistry 2**
Course Coordinator :	**Dr. Gehan alaemary**
Programme Coordinator :	**Dr. Gehan alaemary**
Course Specification Approved Date :	28…./ 12… /1436 …… H

A. Course Identification and General Information

1 - Course title : **Biochemistry (2)**		Course Code: **CHEM414**	
2. Credit hours : **3**			
3 - Program(s) in which the course is offered: **chemistry**			
4 – Course Language : **Arabic**			
5 - Name of faculty member responsible for the course:**Dr.Gehan Alaemary**			
6 - Level/year at which this course is offered : **Seven**			
7 - Pre-requisites for this course (if any) : • **Biochemistry 1**			
8 - Co-requisites for this course (if any) : • **No**			
9 - Location if not on main campus **:** **Main Building**			
10 - Mode of Instruction (mark all that apply)			
A - Traditional classroom	✓	What percentage?	**30 %**
B - Blended (traditional and online)	✓	What percentage?	**40 %**
D - e-learning	✓	What percentage?	**30%**
E - Correspondence	---	What percentage?	**0%**
F - Other	---	What percentage?	**0%**
Comments :			

B Objectives

What is the main purpose for this course?

To Teach Students what are Enzymes, Vitamins, minerals, Hormones and Nucleic acids.

Identify some Biological fluids (Blood, Urine and Milk).Ingredients and Biological Importance.

Briefly describe any plans for developing and improving the course that are being implemented :

***- Continue follow up to the modern studies based upon modern theories.**

***- Electronic materials and computer based programs have been utilized to**

support the lecture course material.

***-The course material was posted on the website that could be accessed by the students enrolled in the course**

C. Course Description

1. Topics to be covered

List of Topics	No. of Weeks	Contact Hours
Nucleic Acids and Nucleotides.	2	4
Enzymes General Specifications, Importance, Nomenclature.	1	2
Enzymes Classification, its Affecting factors.	1	2
Enzyme Motility, Inhibitor, Isoenzymes and Coenzyme.	1	2
Importance of Hormones and Mechanism.	**1**	**2**
Hormones Classification(Pituitary gland, Thyroid gland, Parathyroid gland, Pancreas, Sexual Hormones and Adrenal gland).	**1**	**2**
Vitamins Specifications- Water soluble vitamins.	**1**	**2**
Lipid Soluble Vitamins(D,E, K, A).	**1**	**2**
Micro-elements and Macro-elements.	**2**	**4**
Biological Fluids(Blood, Urine and Milk).	**3**	**6**
TOTAL	**14**	**28**
PRACTICAL:	---	---
Effect of Amylase Enzyme on Starch, Lipid and Protein	**2**	**4**
Effect of Temperature and Ph. On Enzymes	**2**	**4**
Vitamin C Quantitative Estimation.	**2**	**4**
Calcium Estimation.	**2**	**4**
Blood Separation, Study some Serum and Plasma Components.	**2**	**4**
Lactose Quantitative Estimation.	**2**	**4**
Chemistry of Urine.	**1**	**2**
TOTAL	**13**	**26**

2. Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	**28**	.....	**26**	.....	.....	54
Credit	**28**	.....	**13**	.....	.....	41

3. Additional private study/learning hours expected for students per week.

Not Applicable

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	**Knowledge:** **By the end of this course, Students will be able to:**		
1.1	Amino Acids Composition; how to distinguish.	Lecture. Scientific Discussion. Q&A.	Q&A. Periodical Tests. Homework. Scientific Workshops. Lab. Exam. Final Exam.
1.2	What are Enzymes, it's importance, classification and Factors affecting Enzymes.	.....	.....
1.3	What Elements Essential to Human bodies (Macro and Micro).	.....	.....
1.4	Water and Lipid Soluble Vitamins.	.....	.....
1.5	Different Body's Hormones.	.....	.....
1.6	.....	.....	.....
2.0	**Cognitive Skills:** **By the end of this course, Students will be able to:**		
2.1	Analyze and discuss the Information and data to	Lecture.	Q&A.

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
	related to Biochemistry.	Scientific Discussion. Q&A.	Periodical Tests. Homework. Scientific Workshops. Lab. Exam. Final Exam.
2.2	Apply Biochemical knowledge to solve some problems**.**	.....	.....
2.3	Use Bio chemical theories to explain and predict observable phenomena, using the principles developed in Biochemistry.	.....	.....
2.4	Follow logical processes based on well-established scientific principles and demonstrate the ability to use the appropriate problem-solving techniques to solve emical problems.	.....	.....
2.5	Use knowledge and understanding of essential facts, concepts principles and theories relating to course problems.	.....	.....
2.6	Use Testing Standards to achieve success in Practical Experiments.	.....	.....
3.0	**Interpersonal Skills & Responsibility: By the end of this course, Students will be able to:**		
3.1	Constructive Competition	Presentation.	Observation through Practice and Presentation.
3.2	Acquiring Team work spirit	.....	.....
3.3	Acquiring Respect Colleagues Spirit	.....	.....
3.4	Lead a group in different situation	.....	.....
3.5	Sharing in Constructive Solutions finding	.....	.....
3.6	**.....**	.....	.....
4.0	**Communication, Information Technology, Numerical: By the end of this course, Students will be able to:**		
4.1	Effective communication both oral and written.	Presentation. Practical Training.	Observation. Follow up. Homework.

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
4.2	Use of Communication Techniques like P.C, smart Board etc….	.....	.....
4.3	Applying Statistical and Mathematical Techniques.	.....	.....
4.4	Using a computer as a tool in writing, drawing chemical structures and data analysis to communicate scientific information	.....	.....
4.5	Use software and Surf internet for course contents.	.....	.....
4.6		.....	.....
5.0	**Psychomotor**		
5.1	Safely usage for both Chemical Compounds and Instruments.	Practical Part.	Observation through Lab. Hours. Practical Tests.
5.2	How to select tools suitable for specific experiments	.....	.....
5.3	How to operate laboratory instruments	.....	.....
5.4	.....	.....	.....
5.5	.....	.....	.....
5.6	.....	.....	.....

5. Schedule of Assessment Tasks for Students during the Semester:

	Assessment task	Week Due	Proportion of Total Assessment
1	**Workshop**	4th	10%
2	**Mid-Term**	6th	20%
3	**Test**	12th	10%
4	**Final test(Practical)**	14th	20%

5	**Final Test**	15th	40%
6	**TOTAL**	.....	100%

D. Student Academic Counseling and Support

Section Head Follow up.
Determining Office Hours for Student's Questions.
Determining Academic Guidance.
Agreed Ways of Communication
E-mail communication

E. Learning Resources

1. List Required Textbooks :

1. فصول مراجع مختلفة .

- الكيمياء الحيوية للدكتور فريد شكرى عطايا
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2. List Essential References Materials :

الكيمياء الحيوية (كيمياء حيوية تركيبية وكيمياء حيوية فسيولوجية) للدكتور عبدالرحمن أحمد الحملاوي ، دار القلم ،، الكويت طبعة ثالثة ، آخر طبعة .

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3. List Recommended Textbooks and Reference Material :

1-Biochemistry by Donald Voet and Judith G.Voet (Last edition)John Wiely&Sons Inc. (New Y Chichester ,Torronto , Singapore)

2- Biochemistry by Lubert Stryer (Last edition)W.H.Freeman and Company (Nyo

- **3-Principles of Biochemistry by Albert L.Lehninger, David L . Nelson & Michael M.Cox(Last edition) Worth Publishers (New York). .....**
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4. List Electronic Materials :

منتدى الكيمياء الحيوية
http://www.organic-chemistry.org/
http://www.acdlabs.com/iupac/nomenclature/

- **http://www.chem1.com/acad/webtext/gas/gas_3.htm**

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5. Other learning material : • – حاسب –بروجكتور powerpoint- عينات - الاطلاع على أحدث مايدرس فى الجامعات الاخرى - • .....

F. Facilities Required

1. Accommodation • Fully Equipped Laboratories. • Chairs, Tables, Instruments, Glassware. • Lecture Hall, Smart boards •
2. Computing resources • Computers. • High Speed Internet Connection • Chemistry Software. •
3. Other resources • Virtual Laboratories. • Video Tutorials. •

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching: • Analysis of students' performance on interm exam and final exam.. • Comparison of students' scores on interm I, interm II and Final exam. • Asking students about their difficulties every now and then during the semester. • Students' comments during office hours. • Watch for students weaknesses while doing exercises in class. • Administer a questionnaire at the end of the semester.
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor : • A administer a questionnaire at the end of the semester. • Analysis of students' performance on interm exam and final exam**.** • Reflection on student evaluation comments and levels of student achievement of understanding can help identify successful implementation strategies. • Self assessment

3 Processes for Improvement of Teaching :

- Record areas of difficulty.
- Focus on individualized instruction in class.
- Reflection on student behavior/understanding correlated with the strategies utilized during class sessions can help identify successful implementation of strategies.

4. Processes for Verifying Standards of Student Achievement

- Check marking by an independent member teaching staff of a sample of student work.

Check paper research by an independent member teaching staff of a sample of student work.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement :

- This would be achieved by issuing an annual course report at the end of the academic year and which will encompass a corrective/improvement action plan.
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Course Specification Approved

Department Official Meeting No (…3..) Date …28 / …12. / 1436.. *H*

Course's Coordinator		Department Head	
Name :	gehanalaemary	***Name :***	Gehan alaemary
Signature :	Gehan	***Signature :***	Gehan
Date :	28…./ …12 / 1436*H*	***Date :***	…28./ 12 / 1436*H*