جامعة المجمعة
Majmaah University

Course Specifications

Institution:	**majmaah university**
Academic Department :	**chemistry**
Programme :	**chemistry**
Course :	**Biochemistry 1**
Course Coordinator :	**Dr.gehan alaemary**
Programme Coordinator :	**Dr.gehan alaemary**
Course Specification Approved Date :	**4/ 12 / 1435 H**

This form compatible with NCAAA 2013 Edition

A. Course Identification and General Information

1 - Course title : **Biochemistry (1)** Course Code: **CHEM 321**					
2. Credit hours : **3**					
3 - Program(s) in which the course is offered: **chemistry**					
4 – Course Language : **Arabic language** ☐					
5 - Name of faculty member responsible for the course: **Dr.gehan alaemary**					
6 - Level/year at which this course is offered : **Sixth level**					
7 - Pre-requisites for this course (if any) : • **None**					
8 - Co-requisites for this course (if any) : • **None**					
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 : In 1436 *H* we use e-learning –correspondence(D2L ☐					

B Objectives

What is the main purpose for this course?

To teach students briefly what are Carbohydrates, Proteins and Lipids.

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

- **Use electronic Materials**
- **Extensive Use of Scientific References and internet network as well to get other teaching resources that couldn't available in the Library.**
- **The course content are reviewed and updated annually at the beginning of each academic year by the department curriculum committee and any major changes are reported to the college curriculum committee.**

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C. Course Description

1. Topics to be covered

List of Topics	No. of Weeks	Contact Hours
Biochemistry Introduction and Objectives	**2**	**4**
Chemistry of Carbohydrates- Digestion- Absorption - Metabolism	**4**	**8**
Chemistry of Proteins- Digestion- Absorption	**3**	**6**
Chemistry of Lipids- Digestion- Absorption- Metabolism	**3**	**6**
Protein Metabolism	**2**	**4**
TOTAL	**14**	**28**
Laboratory Part:	.....	.....
Carbohydrates Identification	**3**	**6**
Differentiation between Mono, Di and Poly Saccharides	**3**	**6**
Lipids Identification	**2**	**4**
Differentiation between Saturated and un-saturated fatty acids	**1**	**2**
Protein Identification and Amino acids Reactions	**2**	**4**
Unknown Identification Whether belongs to Carbohydrates, Lipids or Proteins	**2**	**4**
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

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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**		
1.1	Students will learn and train the followings: Identification of Different Food Stuffs like, Carbohydrates, Proteins and Lipids.	Lecture. Scientific Discussion. Q&A.	Q&A. Periodical Tests. Homework. Scientific Workshops. Lab. Exam. Final Exam.
1.2	Carbohydrates, Protein and Lipids Specifications.	.....	.....
1.3	Carbohydrates, Proteins and Lipids Metabolism	.....	.....
1.4	Differentiation between Saturated and un-saturated fatty acids	.....	.....
1.5	Experiment's design and Record keeping	.....	.....
1.6	Differentiation between Mono, Di and Poly Saccharides	.....	.....
2.0	**Cognitive Skills: By the end of this course, Students will be able to:**		
2.1	How to analyze the results.	Lecture. Scientific Discussion. Q&A.	Q&A. Periodical Tests. Homework. Scientific Workshops. Lab. Exam. Final Exam.
2.2	How to solve problems related to Chemistry.	.....	.....
2.3	Use Bio chemical theories to explain and predict observable phenomena, using the principles		

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
	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.
4.2	Use of Communication Techniqueslike 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	.....	.....	.....

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
5.0	**Psychomotor: By the end of this course, Students will be able to:**		
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. Learning Resources

1. List Required Textbooks :

١. فصول مراجع مختلفة .

- الكيمياء الحيوية للدكتور فريد شكرى عطايا

2. List Essential References Materials :

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

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 York)

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

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.**

5. Other learning material :

- Either software includes a full range of molecular

mechanics and quantum chemical methods, including Hartree-Fock *AbInitio* methods. This version of Spartan is commonly used in academic computer labs.

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.

Course Specification Approved
Department Official Meeting No (…..) Date … / …. / ….. *H*

Course's Coordinator	Department Head
Name : Gehan Alaemary	***Name :*** Gehan Alaemary
Signature : Gehan	***Signature :*** Gehan
Date : …4./ 12 / 1435 *H*	***Date :*** …./ … / …… *H*