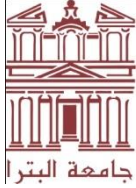



University of Petra		 جامعة البتراء - خمسة وعشرون عاما University of Petra Anniversary
College of Arts and Sciences		كلية الآداب والعلوم
Department of Chemistry		قسم الكيمياء

Course Syllabus

Year : 2018/2019
Semester: 20181

Course No.	Course Title	Prerequisite	Co-requisite	Credit hours Lectures / Lab.	ECTS
101313	Biochemistry	101212	-	3/-	5

Instructor Name	E-mail	Office No.	Office Ext.	Office Hours
Dr. Nabil Eldurini	nabild@uop.edu.jo	7111	7111	Sun, Tue, Thu, 11.00 – 12.00 Mon, 11.00 – 14.00

Coordinator's Name: (if applicable)	-
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Course Description	Chemistry of biologically important chemicals as: carbohydrates, amino acids, peptides, proteins and nucleic acids, Lipids, Organic Chemistry of Metabolic Pathways.
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Course Objectives

- To instill in students a sense of enthusiasm for biochemistry, an appreciation of its application in different contexts and to involve them in an intellectually stimulating and satisfying experience of learning and studying.
- To develop in students the ability to apply their chemical knowledge and skills to the solution of theoretical and practical problems in biochemistry.
- To provide students with a knowledge and skills base from which they can proceed to further studies in specialized areas of biochemistry or multi-disciplinary areas involving biochemistry.
- To generate in students an appreciation of the importance of biochemistry in the biological system.

Course Intended Learning Outcomes (ILOs) and their Alignment with Program ILOs:

Upon successful completion of this course, students are expected to achieve the following learning outcomes:

Course ILOs	Program ILOs	Teaching and Learning Method	Assessment Method
Knowledge and Understanding (K): By the end of the course students should be able to:			
1. Identify major principles and concepts in biological systems and biochemistry.	K1	Lectures using data show	Exams and Quizzes
2 Name and categorize major biochemicals found in biological systems.	K2	Lectures using data show and Models	Exams and Quizzes
Intellectual Skills (I): By the end of the course students should be able to:			
1. Perform different quantitative and qualitative analysis and <u>calclation</u> in biochemistry.	I2, T2		
2. correlate structures of different biomolecules with their specific functions in biological systems.	I1	Lectures using data show	Exams and Quizzes
3. Identify biochemical processes and the role of DNA and RNA in proteins synthesis.	I1	Lectures using data show	Exams and Quizzes

Course Schedule:

Week	Topic Details	Course ILO number	Reference
1, 2, 3	Areas of study of biochemistry; Major classes of biomolecules; Organisms; Water as solvent for the biological system; Acids, bases and buffers in biological system.	K1, K2, K3, I2, I3	Chapter 1
4, 5, 6	Classification and their stereochemistry; Reactions of Monosaccharides; The Eight Essential Monosaccharides; Disaccharides and Polysaccharide.	K1, K2, K3, I2, I3	Chapter 2
7, 8, 9	Structure and Types of Amino Acids; Isoelectric Points; Synthesis of Amino Acids; Peptides and Proteins; Peptide Sequencing; Peptide Synthesis; Protein Structure; Enzymes and Coenzymes.	K1, I2, I3	Chapter 3
10, 11	Waxes, Fats, and Oils; Phospholipids; Steroids and their Biosynthesis.	K1, I2, I3	Chapter 4
12, 13, 14	Nucleotides and Nucleic Acids; Base Pairing in DNA; Replication of DNA; Transcription of DNA; Translation of RNA; DNA Synthesis.	K1, K2, I2, I3,	Chapter 5

Assessment Methods:

Assessment method	Grade	Comments
First Exam	25	(Mon) 18/11/2019 09.30-11.00
Second Exam	25	(Mon) 23/12/2019 09.30-11.00
Quiz	10	5, 10
Final Exam	40	Set by Registrar
Total	100	

Alignment of Teaching and Learning Methods, Assessment and Course ILOs:

Teaching method	Contact Hours	Assessed through	ILOs numbers
Lectures	42	Exams and Quizzes	All ILOs

Learning References:

1- Textbook (s): Organic Chemistry, by John E. McMurry. 8 th Ed, 2012, 2008. Brooks/Cole. Cengage Learning.
2- Principles of Biochemistry, David L. Nelson and Michael M. Cox, Fourth ed.
3- Other Resources: Power point slides supplied by the instructor.

Course Policies:

- **Attendance Policy:** University regulations apply to attendance.
- **Academic Honesty:** Academic dishonesty is an unacceptable mode of conduct, and will not be tolerated in any form at University of Petra. All persons involved in academic dishonesty and plagiarism in any form will be disciplined in accordance with University rules and regulations.

Approved by	Name	Date	Signature
Head of Department	Dr. Abdelmnim Al Tweiq		
Faculty Dean	Prof. Rami Abdulrahim		