Jordan University of Science and Technology

Faculty of Science & Arts

Chemistry Department

CHEM262 Biochemistry
First Semester 2017-2018

Course Catalog
3 Credit Hours. This course deals with structure and properties of biomolecules, such as amino acids, proteins, carbohydrates, lipids, and nucleic acids. The focus of this course will be on the relationship between protein structure and its biological function, generation and storage of metabolic energy, main metabolic pathways and their key steps. In addition, the role of phospholipids in determining the properties of biological membranes and their function will be discussed

Text Book	
Title	ESSENTIAL BIOCHEMISTRY
Author(s)	C.W. Pratt and K. Cornely
Edition	3rd Edition
Short Name	BIOCHEMISTRY
Other Information	Publisher: John Wiley and Sons, Inc., USA.

Course References

Instructor	
Name	**Dr. Ayat Bani Rashaid**
Office Location	-
Office Hours	Sun : 10:00 - 11:00 Sun : 14:15 - 15:15 Mon : 11:30 - 12:30 Mon : 13:30 - 14:30 Tue : 11:00 - 12:00 Thu : 09:00 - 10:00
Email	ahbanirashaid@just.edu.jo

Class Schedule & Room

Section 1:
Lecture Time: Sun, Tue, Thu : 10:30 - 11:30
Room: NB57

Prerequisites		
Line Number	**Course Name**	**Prequisite Type**
931030	BIO103 General Biology	Prerequisite / Study
912120	CHEM212 Organic Chemistry (2)	Prerequisite / Study

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Week 1	Aqueous Chemistry	
Week 2	Protein Structure	
Week 3	Protein Structure	
Week 4	How Enzymes Work?	
Week 5	Enzyme Kinetics and Inhibition	
Week 6	Lipids Membranes	
Week 7	Membrane Transport	
Week 8	Carbohydrates	
Week 9	Metabolism and Bioenergetics	
Week 10	Glucose Metabolism	
Week 11	The Citric Acid Cycle	
Week 12	Electron Transport and Oxidative Phosphorylation	
Week 13	Lipid Metabolism	

Mapping of Course Objectives to Program Student Outcomes[1]	Assessment method
To learn the structure and functions of proteins (amino acids, enzyme kinetics and inhibitors) [1a, 1e]	
To study the various properties of water as a biological solvent. [1a]	
To study the structure and function of lipids and carbohydrates macro molecules [1a, 1e]	
To study the metabolism of macro-molecules (gluconeogenesis, glycolysis, citric acid cycle, electron transport and oxidative phosphorylation) [1a, 1e]	

Relationship to Program Student Outcomes (Out of 100%)										
a	b	c	d	e	f	g	h	i	j	k
55				45						

Date Printed: 2017-11-28

This textbook, Essentials of Biochemistry is aimed at chemistry and biochemistry undergraduate students and first year biochemistry graduate students. It incorporates the lectures of the authors given to students with a strong chemistry background. An emphasis is placed on metabolism and reaction mechanisms and how they are studied. As the title of the book implies, the text lays the basis for an understanding of the fundamentals of biochemistry. Show all. About the authors. and Linkages in Biochemistry Structurea Compound Name Amineb RNH2 or R2NH or R3N or Functional Group RNHâ«¹ 3 R2NHâ«¹ 2 R3NHâ«¹ N â«¹ or N (amino group) Alcohol ROH OH(hydroxyl group) Thiol RSH SH (sulfhydryl group) Ether ROR O Aldehyde Ketone R R O O C H C O O. C R (carbonyl group), R C O (carbonyl group), R C R C O OH or C O OH(carboxyl group) or R C Oâ«º C Oâ«º (carboxylate group) R C (acyl group) (acyl group) O O O Ester O C Essential Biochemistry, 4th Edition is comprised of biology, pre-med and allied health topics and presents a broad, but not overwhelming, base of biochemical coverage that focuses on the chemistry behind biology. Futhermore, it relates the chemical concepts that scaffold the biology of biochemistry, providing practical knowledge as well as many problem-solving opportunities to hone skills. Key Concepts and Concept Review features help students to identify and review important takeaways in each section.

Preface Essentials of Biochemistry, is based on the earlier well-established book Biochemistry. It has been streamlined to focus primarily on the essential biochemical concepts important to medical students. If further details are needed, it is advised that the students should refer to larger parent book Biochemistry. Essential Biochemistry, 4th Edition is comprised of biology, pre-med and allied health topics and presents a broad, but not overwhelming, base of biochemical coverage that focuses on the chemistry behind biology. Futhermore, it relates the chemical concepts that scaffold the biology of biochemistry, providing practical knowledge as well as many problem-solving opportunities to hone skills. Key Concepts and Concept Review features help students to identify and review important takeaways in each section. Study Essential Biochemistry discussion and chapter questions and find Essential Biochemistry study guide questions and answers.Â Essential Biochemistry. Charlotte W. Pratt/Kathleen Cornely. ISBN: 0471393878. 303 study materials. Get started today for free. All Documents from Essential Biochemistry. Essential chemistry for biochemists. Amanda L. Jonsson1, Mark A.J. Roberts2, J.L. Kiappes3and Kathryn A. Scott3. 1Department of Chemistry, University of Wisconsin-Stevens Point, 2100 Main Street Stevens Point, WI 54481, U.S.A.; 2Institute for Health Science Education, Queen Mary.Â Department of Biochemistry, University of Oxford, South Parks Road, Oxford, OX1 3QU, U.K. Correspondence: Kathryn A. Scott (kathryn.scott@bioch.ox.ac.uk). The Essentials of Chinese Medicine is a text book intended for international students Essentials of Chinese Medicine Vol.3.pdf. 661 PagesÂ·2009Â·26.33 MBÂ·20,722 Downloads. The Essentials of Chinese Medicine is a text book intended for international students ...Â presentation and packing and proper claim of therapeutic Chemistry , Biochemistry and Ayurveda of Indian Page 1 Page 2 4000 Essential English Words 6 Page 3 4000 Essential English Words 6 Paul 191 PagesÂ·2013Â·20.92 MBÂ·105,788 Downloads.

Essentials of Biochemistry. Dr. Herbert J. Fromm Iowa State University Dept. Biochemistry, Biophysics & Molecular Biology Ames Iowa USA. Dr. Mark S. Hargrove Iowa State University Dept.Â This textbook is aimed at undergraduate chemistry and biochemistry students as well as rst-year biochemistry graduate students. Based on lectures given to students with strong chemistry backgrounds at Iowa State University, this book emphasizes metabolism and enzyme reaction mechanisms. Essential chemistry for biochemists. Amanda L. Jonsson1, Mark A.J. Roberts2, J.L. Kiappes3and Kathryn A. Scott3. 1Department of Chemistry, University of Wisconsin-Stevens Point, 2100 Main Street Stevens Point, WI 54481, U.S.A.; 2Institute for Health Science Education, Queen Mary.Â Department of Biochemistry, University of Oxford, South Parks Road, Oxford, OX1 3QU, U.K. Correspondence: Kathryn A. Scott (kathryn.scott@bioch.ox.ac.uk). Essential Biochemistry, 4th Edition is comprised of biology, pre-med and allied health topics and presents a broad, but not overwhelming, base of biochemical coverage that focuses on the chemistry behind biology. Futhermore, it relates the chemical concepts that scaffold the biology of biochemistry, providing practical knowledge as well as many problem-solving opportunities to hone skills. Key Concepts and Concept Review features help students to identify and review important takeaways in each section. Categories The Essential Biochemistry website is an online companion to the introductory biochemistry textbook of the same name published by John Wiley & Sons. As such, the website material is not intended to be used as a stand-alone resource in courses, though students of biochemistry will find the online content to be a very useful study aid. The website includes 27 interactive exercises on a variety of topics, as well as 4 brief reviews of prerequisite topics like redox reactions and thermodynamics.

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