



Faculty of Pharmacy
Al-Zaytoonah University of Jordan

" نحو تعليم صيدلاني متميز "
Toward Excellence in Pharmaceutical
Education

الزيتونة الأردنية
Al-Zaytoonah University of Jordan
كلية الصيدلة
Faculty of Pharmacy



" Tradition and Quality "

Detailed Course Description - Course Plan Development and Updating Procedures/ Pharmacy Department	QF02/0408-3.0E
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Faculty	Pharmacy	Department	Pharmacy
Course number	201711	Course title	Advanced Clinical Biochemistry
Number of credit hours	3	Pre-requisite/co- requisite	

Brief course description

Special branch of medicine dealing with measurement and interpretation of the physicochemical condition and dynamics in healthy and diseased humans. This course explain the composition and measurement of the secretions, excretions and fluids of the human body in the health and the disease. This course also explain all metabolic processes in relation to their physiological and pathological changes in human. To understand the analysis of body fluids, cells and sometimes tissues, together with interpretation of the results of analysis, as well as the knowledge and skills necessary for management of a clinico-chemical laboratory.

Course goals and learning outcomes	
Goal 1	Understanding the investigation of lipids metabolism disorders
Learning outcomes	Successful completion of the this course should enable the student to explain: 1.1 Plasma cholesterol, lipoproteins, and triglycerides concentrations and their relationship with heart disease 1.2 Dietary management and drug therapy for hyperlipidemia 1.3 Inborn errors of cholesterol biosynthesis and effects of low blood cholesterol
Goal 2	Understanding antioxidants benefits and disorders.
Learning outcomes	Successful completion of the this course should enable the student to understand: 2.1 All natural and synthetic antioxidants. 2.2 Role of antioxidants in the health and in the disease states. 2.3 Effects of large doses of antioxidants
Goal 3	Understanding free radicals
Learning outcomes	Successful completion of the this course should enable the student to understand: 3.1 Formation of free radicals in biological systems and natural body protection from toxic effects of free radicals 3.4 Benefits of free radicals in the body 3.5 Free radicals and related diseases
Goal 4	Understanding hormones function and deficiency.
Learning outcomes	Successful completion of the this course should enable the student to explain 4.1 All anterior and posterior pituitary hormones and their functions 4.2 Different clinical cases related to disturbances in the secretion or functions of hormones 4.3 Etiology of pituitary tumors and hypopituitarism and their treatments



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Textbook	<p>1. Clinical Biochemistry: An Illustrated Colour Text, 5e Jul 16, 2013, By Allan Gaw MD PhD FRCPATH FFPM PGCertMedEd and Michael J. Murphy FRCP Edin FRCPATH.</p> <p>2- Harpers Illustrated Biochemistry 30th Edition, Jan 8, 2015, by Victor Rodwell and David Bender</p> <p>3- Handbook of Antioxidants for Food Preservation (Woodhead Publishing Series in Food Science, Technology and Nutrition), Mar 18, 2015, by Fereidoon Shahidi</p>
Supplementary references	<p>1. Clinical Biochemistry: An Illustrated Colour Text, 5e by Allan Gaw MD PhD FRCPATH FFPM PGCertMedEd, Michael J. Murphy FRCP Edin FRCPATH, Rajeev Srivastava and Robert A. Cowan BSc PhD (Jul 16, 2013).</p> <p>2- Free Radicals in Biology and Medicine, Oct 20, 2015, by Barry Halliwell and John M. C. Gutteridge</p>

Course timeline

Week	Number of hours	Course topics	Pages (textbook)	Notes
01	1 1 1	Cholesterol and Hyperlipidemia Cholesterol		
02	1 1 1	Lipoproteins and Lipid Transport Plasma Cholesterol and Risk of Heart Disease		
03	1 1 1	Plasma Triglycerides and Risk of Heart Disease Dietary Management		
04	1 1 1	Drug Therapy Hypocholesterolemia		
05	1 1 1	Effect s o f Low Blood Cholesterol Inborn Errors of Cholesterol Biosynthesis		
06	1 1 1	Antioxidants and Health Format ion of Free Radicals		
07	1 1 1	Free Radicals in Biological Systems Protection from Free Radicals		
08	1 1 1	Benefits of Free Radicals Free Radicals and Diseases		
09	1 1 1	Large Doses of Antioxidants Introduction to hormones and pituitary function		



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10	1	Introduction to hormones and pituitary function Anterior pituitary hormones		
	1			
	1			
11	1	Pituitary tumors Growth hormone		
	1			
	1			
12	1	Actions of growth hormone Acromegaly		
	1			
	1			
13	1	Growth hormone deficiency Hypopituitarism		
	1			
	1			
14	1	Etiology of hypopituitarism Treatment of panhypopituitarism		
	1			
	1			
15	1	Posterior pituitary hormones Oxytocin		
	1			
	1			

Theoretical course evaluation methods and weight	1st Exam= 25% 2nd Exam= 25% Final Exam = 50%	Practical (clinical) course evaluation methods	Course Work = 50% (Reports, Term Papers, Quizes) Final Exam = 50%
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Approved by head of department		Date of approval	
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Extra information (to be updated every semester by corresponding faculty member)

Name of teacher	Dr. Tariq Al-Qirim	Office Number	232
Phone number (extension)		Email	_tariq.qirim@zug.edu.jo
Office hours			