



Course Detailed Description – Procedures of the Course Plan Committee /Faculty of Pharmacy	QF02/0408–1.0
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Department	Pharmacy
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Course Name	Clinical Biochemistry	Course No.	201413
Prerequisite	Pharmaceutical Biochemistry	Credit Hours	2
Number & date of course plan approval	2011/2010	Brief Description	See form QF02/0409

(Course Objectives)	<p>(1) special branch of medicine dealing with measurement and interpretation of the physical condition and dynamics in healthy and diseased humans.</p> <p>(2) branch of chemistry that deals with the composition and measurement of the secretions, excretions, concretions, and fluids of the human body in health and disease, and the chemical composition of cells and tissues.</p> <p>(3) study of metabolic processes in relation to their physiological and pathological changes.</p> <p>(4) Analysis of body fluids, cells and sometimes tissues, together with interpretation of laboratory analysis, as well as the knowledge and skills necessary for management of a clinico-chemical laboratory.</p>		
Course Topics	<ol style="list-style-type: none"> 1. Biochemical investigations in clinical medicine 2. Water, sodium and potassium 3. Hydrogen ion homeostasis and blood gases 4. The kidneys 5. The liver 6. The gastrointestinal tract 7. The hypothalamus and the pituitary gland 8. The adrenal glands 9. The thyroid gland 10. The gonads 11. Disorders of carbohydrate metabolism 12. Calcium, phosphate and magnesium 13. Plasma proteins and enzymes 14. Lipids, lipoproteins and cardiovascular disease 		
Text Books	<p>1- Marks' Basic Medical Biochemistry (Lieberman, Marks's Basic Medical Biochemistry) by Alisa Peet MD, Michael A. Lieberman PhD and Allan Marks MD (Mar 29, 2012)</p> <p>2- Harper's Illustrated Biochemistry, 29e Robert K. Murray, David A Bender, Kathleen M. Botham, Peter J. Kennelly, Victor W. Rodwell, P. Anthony Weil Copyright © 2012 by The McGraw-Hill Companies, Inc</p>		
References	<p>Clinical Biochemistry: An Illustrated Colour Text, 5e by Allan Gaw MD PhD FRCPATH FRCPath PGCEd, Michael J. Murphy FRCP Edin FRCPATH, Rajeev Srivastava and Robert A. Cowan BSc PhD (Jul 16, 2013)</p>		
Grade Determination	<p>1st Exam=25%</p> <p>2nd Exam=25%</p> <p>Final Exam= 50%</p>	(Practical Course Grade Determination)	<p>Course Work =50% (Reports, Term Papers, Quizes)</p> <p>Final Exam = 50%</p>



Course Outline				
Week	Hours	Subjects	Chapters in Textbook	Notes
01	1	Hyponatraemia: pathophysiology	Chapter 1	
	1	Hyponatraemia: assessment and management		
	1	Hypernatraemia		
02	1	Hyperkalaemia	Chapter 1	
	1	Hypokalaemia		
	1	Investigation of renal function		
03	1	Urinalysis	Chapter 1	
	1	Acid-base: concepts and vocabulary		
	1	Acid-base disorders: diagnosis and management		
04	1	Proteins and enzymes	Chapter 1	
	1	Immunoglobulins		
	1	Myocardial infarction		
05	1	Liver function tests	Chapter 1	
	1	Jaundice		
	1	Liver disease		
06	1	Glucose metabolism and diabetes mellitus	Chapter 1	
	1	Diagnosis and monitoring of diabetes mellitus		
	1			
07	1	Diabetic ketoacidosis	Chapter 1	
	1	Hypoglycaemia		
	1			
08	1	Calcium regulation and hypocalcaemia	Chapter 1	
	1	Hypercalcaemia		
	1			
09	1	Phosphate and magnesium	Chapter 1	
	1	Bone disease		
	1	Osteoporosis		
10	1	Endocrine control	Chapter 2	
	1	Dynamic function tests		
	1			
11	1	Pituitary function	Chapter 2	
	1	Growth disorders and acromegaly		



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12	1 1 1	Thyroid pathophysiology Hypothyroidism	Chapter 2	
13	1 1 1	Hyperthyroidism Adrenocortical pathophysiology Hypofunction oftheadrenal cortex	Chapter 2	
14	1 1 1	Hyperfunction oftheadrenal cortex Gonadal function	Chapter 2	
15	1 1 1	Lipoprotein metabolism Clinicaldisorders oflipid metabolism Hypertension	Chapter 3	
16	1 1 1	Cancer and itsconsequences Hyperuricaemia Skeletal muscle disorders	Chapter 3	

Approved by Dept. Chair		Date of Approval	
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Extra Information: (Updated every semester and filled by course instructor)

Course Instructor	
Office No.	
Extension Email	
Office hours	