



Department	Pharmacy
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Course Name	Toxicology	Course No.	201434
Prerequisite	(201434) Pharmacology-2-	Credit Hours	2
Number & date of course plan approval		Brief Description	See form QF02/0409

Course Objective	<ol style="list-style-type: none"> 1. Have knowledge about the relation between human health and toxicology. 2. Know the appropriate general detoxification method for different toxicants. 3. Know different sources of toxicants and their mechanism of toxicity. 4. Be familiar with clinical cases for different toxicants for their diagnosis , lab test, and treatment
Intended Learning Outcomes	<ul style="list-style-type: none"> • Knowledge and understanding At the end of this course, students will be able to: <ol style="list-style-type: none"> 1. Understanding the relation between human health and toxicology 2. Knowing the characteristics of exposure to toxic substances (drugs and non-drugs) 3. understanding the mechanisms of toxicity 4. Understanding the management of the human poisoning case (the routes of decontamination and antidotes) 5. Knowing common laboratory tests that help to identify toxic substances • Cognitive skills (thinking and analysis). <ol style="list-style-type: none"> 1. Think critically of different poisoning cases as the case studies are effective means of teaching concepts. 2. Comparing different alternatives to treat the poisoning cases and how to choose the most appropriate one. 3. Analyzing certain poisoning cases and indentify the possible cause
Course Topics	<ol style="list-style-type: none"> 1. Basic principles in toxicology 2. Clinical strategy for treatment of the poisoned Patient 3. Toxicity of gases 4. Toxicity of pesticides 5. Toxicity of metals 7. Toxicity of solvents 8. Drug overdose

Text Books	Casarett and Doull's essentials of Toxicology, 3 rd edition, 2015, Curtis D. Klaassen and John B. Watkins III			
References	1. Goldfranks Toxicologic Emergencies. 10 th edition, 2015 2. LU'S Basic Toxicology, 6 th edition, 2012 3. Poisoning & Drug Overdose, 6 th edition, 2012			
Grade Determination	<input type="checkbox"/> 1 st Exam = 25% 2 nd Exam = 25% Final Exam = 50%	<input type="checkbox"/> Practical Course Grade Determination	<input type="checkbox"/> Course Work = 50% (Reports, Term Papers, Quizes) Final Exam = 50%	
Course Outline				
Week	Hours	Subjects	Chapters in Textbook	Notes
1	1	- Introduction & definitions: Toxicology, Poison, Toxic effects, Therapeutic dose, toxic dose, TLV.	2	
	1	-Fields of Toxicology, Characteristics of exposure.		
2	1	-Classification of toxic agents -Types of toxic effects	2	
	1	-Interaction of chemicals, Selective toxicity.		
3	1	-Mechanisms of toxicity: delivery of toxicants, reaction with target organ	3	
	1	-Cellular dysfunction, examples of different mechanisms		
4	1	-Clinical strategy for treatment of the poisoned Patient: Stabilization of the patient, Clinical evaluation (history, physical, laboratory, radiology)	33	
	1	-Prevention of further toxin absorption		
5	1	-Enhancement of toxin elimination	33	
	1	-Administration of antidote, Supportive care and clinical follow-up		



Course Detailed Description – Procedures of the Course Plan Committee /Faculty of Pharmacy

QF02/0408–2.1E

6	1	-Toxicity of Cyanide: sources and mechanism of toxic action	11	
	1	- Toxicity of Cyanide: symptoms and treatment		
7	1	-Toxicity of Carbon Monoxide	11	
	1	-toxicity of hydrogen sulfide, Toxic Methemoglobinemia		
8	1	-Toxicity of Organophosphates insecticides, Mechanism of toxic action	22	
	1	-symptoms of toxicity and treatment		
9	1	-Toxicity of Organochlorine insecticides	22	
	1	- Toxicity of pyrethrines		
10	1	- Toxicity of rodenticides	22	
	1	-Toxicity of fungicides and herbicides		
11	1	-Toxicity of metals: Principles of metal chelation, chelating agents clinically used	23	
	1	-Toxicity of Iron		
12	1	-Toxicity of Lead	23	
	1	-Toxicity of Mercury		
13	1	-Toxicity of Solvents: Ethanol, Methanol	24	
	1	- Toxicity of Solvents: Isopropanol, Ethylene Glycol		
14	1	-Salicylate toxicity: sources, mechanism of toxic action	32	
	1	-Salicylate toxicity: symptoms, treatment		
15	1	-Acetaminophen toxicity: sources, mechanism of toxic action	32	
	1	-Acetaminophen toxicity: symptoms, treatment		

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

Course Instructor	Dr. Suhair Hikmat
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Office hours	