



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

" نحو تعليم صيدلاني متميز "
Toward Excellence in Pharmaceutical
Education

جامعة 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	0201434	Course title	Toxicology
Number of credit hours	2	Pre-requisite/co-requisite	0201431

Brief course description

This course will cover the basic principles in toxicology, and also covers sources and classification of poisons, their mechanisms of toxic action, diagnostic clues for toxicity, and symptoms of toxicity, prevention and treatment.

Course goals and learning outcomes	
Goal 1	Granting students the knowledge on the toxicological potential of chemicals
Learning outcomes	1.1 Understand the relation between human health and toxicology 1.2 Know the characteristics of exposure to toxic substances (drugs and non-drugs) 1.3 Understand the mechanisms of toxicity
Goal 2	Understanding the appropriate general detoxification method for different toxicants.
Learning outcomes	2.1 Describe the management of the human poisoning (the routes of decontamination , prevention, and treatment)
Goal 3	Be familiar with clinical cases for poisoning of selected chemicals
Learning outcomes	3.1 Think critically of different poisoning cases as the case studies are effective means of teaching concepts. 3.2 Comparing different alternatives to treat the poisoning cases and how to choose the most appropriate one. 3.3 Know common laboratory tests that help to identify toxic substances
Textbook	1.- Casarett and Doull's essentials of Toxicology, 3 rd edition, 2015, Curtis D. Klaassen and John B. Watkins III
Supplementary 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



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Course timeline				
Week	Number of hours	Course topics	chapter (textbook)	Notes
1	1	- Introduction & definitions: Toxicology, Poison, Toxic effects, Therapeutic dose, toxic dose, TLV. -Fields of Toxicology, Characteristics of exposure.	2	
2	1	-Classification of toxic agents -Types of toxic effects -Interaction of chemicals, Selective toxicity.	2	
3	1	-Mechanisms of toxicity: delivery of toxicants, reaction with target organ -Cellular dysfunction, examples of different mechanisms	3	
4	1	-Clinical strategy for treatment of the poisoned Patient: Stabilization of the patient, Clinical evaluation (history, physical, laboratory, radiology) -Prevention of further toxin absorption	33	
5	1	-Enhancement of toxin elimination -Administration of antidote, Supportive care and clinical follow-up	33	
6	1	-Toxicity of Cyanide: sources and mechanism of toxic action	11	
7	1	- Toxicity of Cyanide: symptoms and treatment		
7	1	-Toxicity of Carbon Monoxide -toxicity of hydrogen sulfide, Toxic Methemoglobinemia	11	
8	1	-Toxicity of Organophosphates insecticides, Mechanism of toxic action -symptoms of toxicity and treatment	22	
9	1	-Toxicity of Organochlorine insecticides - Toxicity of pyrethrines	22	
10	1	- Toxicity of rodenticides	22	
10	1	-Toxicity of fungicides and herbicides		
11	1	-Toxicity of metals: Principles of metal chelation, chelating agents clinically used -Toxicity of Iron	23	
12	1	-Toxicity of Lead	23	
12	1	-Toxicity of Mercury		
13	1	-Toxicity of Solvents: Ethanol, Methanol	24	



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	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		
16	2	Final Exam		

Theoretical course evaluation methods and weight	Participation = 0% First exam 25% Second exam 25% 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. Suhair Hikmat	Office Number	217
Phone number (extension)	306	Email	suhair.jasim@zuj.edu.jo
Office hours			