Course Specifications

General Information

Course name	Drug Interactions
Course number	PHPT5223
Faculty	
Department	
Course type	Major Needs
Course level	5
Credit hours (theoretical)	2
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - : By the ends of the course, students should be able to:

2 - 1.Know and understand the basic mechanisms involved in drug interactions.

3 - 2.Know and understand the basic types of drug interaction, including pharmacokinetics and pharmacodynamics drug interactions.

4 - 3. Describe the enzymes and enzyme sub-families that are most commonly involved in drug interactions.

5 - 4.Know and understand the possible outcomes of drug interactions and how to deal with them

6 - 5. Know and understand the important drug interactions most commonly involved in clinical practice, including drug-drug interactions, drug-food interactions, drug-herb interactions, and environmental factors-drug interactions.

Intended Learning Outcomes

Knowledge and Understanding	* 1. Know and understand the principles related to drug interactions. * 2. Recognize the benefits and dangers of drug interactions. * 3.Evaluate given drug interactions to determine their clinical significance. * 4.Become familiar with interactions between therapeutic drugs and food, herb, and environmental factors.
Intellectual Skills	* 1. Build up knowledge and scientific skills regarding the drug interactions and their applications in relation to human health. * 2. Extrapolate drug interactions from animal data to humans. * 3.Evaluate and analyze the mechanism, outcome, and clinical significance of a given drug interaction. * 4.Develop strategies for managing clinically significant drug interactions. * 5.Recognize drug interaction pairs, or drug interactions of multiple drugs that are most likely to cause harm and/or hospitalization in different age group population. * 5.To appraise the effectiveness of the preventive measures available to reduce the burden of toxic agents and protect human and other living organisms from toxic agents.
Professional Skills	* 1. Apply knowledge of drug interactions in relation to human health. * 2. Evaluate drug prescription orders in regard to possible drug interactions. * 3.Able to identify and solve drug interaction problems. * 4. Demonstrate an ability to evaluate and utilize different information resources , including articles, internet websites, and references. * 2. Make informed, rational, and responsible decisions about possible drug interactions.
General Skill	* 1. Find, understand, analyze, evaluate, and synthesize information about the dangerous drug interactions. * 2. Make informed, rational, and responsible decisions about possible drug interactions. * 3.work and communicate effectively with general population, colleagues and people of other professions regarding any issue concerning drug interactions.

Course Contents

1 - 1.Introduction to drug interactions: definitions, types, occurrence, and outcomes.
2 - 2.General mechanisms of drug interactions: pharmacokinetic and pharmacodynamics drug interactions.
3 - 3. Drug interactions of selected classes of therapeutic agents, including antibiotics and antifungals, non-steroidal anti-inflammatory agents, antidiabetic agents, contraceptives, antacids and proton pump inhibitors, diuretics, antihyperlipidemic drugs, anticoagulants and antiarrhythmic drugs.
4 - 4. Drug-food interactions.
5 - 5. Drug-herb interactions
6 - 6. Drug-environmental factors (smoking, alcohol, etc.) interactions

Teaching and Learning Methods

1 - 1.Lectures, using Power point presentation software, when needed.
2 - 2.Class discussion and review of the important features of each topic through short informal writing assignments
3 - 3.Class discussion regarding recent information in drug interactions in the news and web pages.
4 - 4.A class presentation-case study of a drug interaction incident reported in local hospitals, pharmacies, or in the scientific literature (alone or in group (
5 - 5.Submitting and discussing a report about a topic of interest from an appropriate journal or text (alone or in group).

Students Assessment

Assessment Method	TIME	MARKS
1-First mid-term exam	6th-7th week	40
2-Second mid-term exam	Not applied	----------
3-Attendance and discussion	during the term	5
homework and project report	during the term and end of the term	5
Final exam	end of the term	50

Books and References

Course note	Lecture notes in drug interactions prepared by the lecturer.
Essential books	Karen Baxter. (2010) Stockleys drug interactions, 9th edition, Pharmaceutical Press.
Recommended books	Ashraf Mozayani, Lionel Raymon. (2012). Handbook of Drug Interactions. A clinical and Forensic Guide, 2nd eition, Humana Press.
Other References (Periodical, web sites, ... etc.)	Selected articles from official journals, when available. Official websites of WHO, FDA, official drug interaction checker, etc.

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
1.Introduction to drug interactions: definitions, types, occurrence, and outcomes.					
2.General mechanisms of drug interactions: pharmacokinetic and pharmacodynamics drug interactions.					
. Drug interactions of selected classes of therapeutic agents, including antibiotics and antifungals, non-steroidal anti-inflammatory agents,					
antidiabetic agents, contraceptives, antacids and proton pump inhibitors, diuretics, antihyperlipidemic drugs, anticoagulants and antiarrhythmic drugs.					
4. Drug-food interactions.					
5. Drug-herb interactions					
6. Drug-environmental factors (smoking, alcohol, etc.) interactions.					
	(1st week).				
	(2nd- 3rd week).				
	(4th- 7th week)				
	(8th-11th weeks)				
	(12th week)				
	(13th week)				
	(14th week)				
		1. Know and understand the principles related to drug interactions.			
		2. Recognize the benefits and dangers of drug interactions.			

		3.Evaluate given drug interactions to determine their clinical significance.			
		4.Become familiar with interactions between therapeutic drugs and food, herb, and environmental factors.			
			1. Build up knowledge and scientific skills regarding the drug interactions and their applications in relation to human health.		
			2. Extrapolate drug interactions from animal data to humans.		
			3.Evaluate and analyze the mechanism, outcome, and clinical significance of a given drug interaction.		
			4.Develop strategies for managing clinically significant drug interactions.		
			5.Recognize drug interaction pairs, or drug interactions of multiple drugs that are most likely to cause harm and/or hospitalization in different age group population.		

			6.To appraise the effectiveness of the preventive measures available to reduce the burden of toxic agents and protect human and other living organisms from toxic agents.		
				1. Apply knowledge of drug interactions in relation to human health.	
				2. Evaluate drug prescription orders in regard to possible drug interactions.	
				3.Able to identify and solve drug interaction problems.	
				4. Demonstrate an ability to evaluate and utilize different information resources , including articles, internet websites, and references.	
					1. Find, understand, analyze, evaluate, and synthesize information about the dangerous drug interactions .
					2. Make informed, rational, and responsible decisions about possible drug interactions .

					3.work and communicate effectively with general population, colleagues and people of other professions regarding any issue concerning drug interactions.