



Paramedical program	
Specialization	Pharmacy
Course number	020805231
Course title	Pharmaceutics 2
Credit hours	2
Theoretical hours	2
Practical hours	0



Brief Course Description:

The course deals with Pharmaceutical (liquid, gas)dosage forms including the properties &specification of each phase, their deterioration features.

Course Objectives:

Upon the completion of the course, the student will be able to:

1. Identify the (liquid, gas) state of matter &the properties for each.
2. Identify (liquid, gas) Pharmaceutical dosage forms & their uses &examples of each.
3. Knowing the advantages &disadvantages of each kind.
4. Identify the deterioration features of each kind.

Detailed Course Description:

Unit number	Unit name	Unit content	Time needed
1.	Liquid state :	<ul style="list-style-type: none"> ▪ Forces of attraction: <ul style="list-style-type: none"> ○ Surface tension phenomena &it's application ○ Types of surfactant ▪ Effect of PH on ionization of weekly acidic or basic drugs &their salts ▪ preparation of buffer solution ▪ Solubility definition <ul style="list-style-type: none"> ○ Expression related to degree of solubility ○ Factors affecting solubility 	
2.	Liquid Pharmaceutical dosage form	<ul style="list-style-type: none"> ▪ Water: <ul style="list-style-type: none"> ○ Pharmaceutical waters ○ the Q.C. test done for purified and parenteral water ▪ Aromatic Water <ul style="list-style-type: none"> ○ method of preparations ○ examples ▪ Solutions: <ul style="list-style-type: none"> ○ general principles in preparation of solutions ○ Enema ○ Douches ○ Gargles ○ Syrup ▪ Physical & chemical changes during storage and use ▪ Spirits <ul style="list-style-type: none"> ○ Method of preparation ▪ Tinctures <ul style="list-style-type: none"> ○ classifications 	



		<ul style="list-style-type: none"> ○ preparation ▪ Extracts <ul style="list-style-type: none"> ○ Type (liquid, solid, semisolid) ▪ Elixir ▪ Parental Preparation <ul style="list-style-type: none"> ○ Preparation and sterility ○ Additives used in parental preparation & examples for each ○ The desirable properties of a good parental preparation ○ Q.C. tests applied at parental preparation ▪ Ophthalmic Drops <ul style="list-style-type: none"> ○ The desirable properties of good ophthalmic drop ▪ Ear ,Nose Drops ▪ Liniment ▪ Suspension <ul style="list-style-type: none"> ○ The properties of a good suspension ○ The role of suspending agent ○ The stability of suspension ▪ Lotions <ul style="list-style-type: none"> ○ Main component of lotion ▪ Emulsions <ul style="list-style-type: none"> ○ types of emulsion (o /w, w/o) ○ methods of preparation ○ role of emulsifying agent types ○ form of instability of emulsions ○ factors affecting stability of emulsion ○ methods for identifying emulsion type 	
3.	Gaseous State :	<ul style="list-style-type: none"> ▪ Kinetic molecular theory <ul style="list-style-type: none"> ○ Real gases ,ideal gases ○ factors affecting solubility of gases (temperature &pressure) 	



4.	Gaseous Pharmaceutical Dosage Form	<ul style="list-style-type: none"> ▪ Aerosol <ul style="list-style-type: none"> ○ types of aerosol ○ type of propellant 	
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Evaluation Strategies:

	Exams	Percentage	Date
	Mid Exam	40%	--/--/----
	Final Exam	50%	--/--/----
	Homework and Projects Discussions and lecture Presentations	10%	--/--/----

Teaching language:

- English

Teaching Methodology:

Lectures , visits for a pharmaceutical industry fields

Text Books & References:

- 1- Martin's Physical pharmacy and pharmaceutical sciences, Patric J .Siko, fifth edition, 2006, Lippincott (Williams & Wilkens)
- 2- Pharmaceutical practice , A.J. Winfield, R.M.E. Richards, 3d. edition, 2005, Churchill Livingstone
- 3- Physical pharmacy, Alfred Martin, Bustamante, 4th edition,1993, Lippincott William & Wilkins
- 4- Remington ,The science and practice of pharmacy 21st edition,2004, Lippincott William & Wilkens

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- 5- British Pharmacopoeia 2008, British pharmacopoeia Commission, TSO.
6- The Science of dosage form design, Edin burgh, 2002, New Yourk, Churchill Livingston
8- Gilbert & Christopher Rhodes , Modern Pharmaceutics, third edition ,1995, Publisher Marcel Dekker, Madison Avenue , New York Morton publishing company.