



**Jerash University
Course Syllabus**

Faculty of Pharmacy		
Year:	20xx/20xx	Semester:

Course Information	
Course Title	Physical pharmacy lab
Course Number	
Course Time	TBA
Prerequisites	
Instructor	Dr. Shadi Gharaibeh
Office Location	
Office Hours	TBA
E-mail	
Office phone #	
Website	
Teaching Assistant(s)	TBA

Assessment Policy		
Assessment Type	Expected Due Date	Weight
Mid term Exam	TBA	20%
Final Exam	TBA	40%
Quizzes	Every week	10%
Assignments and reports	Every week	10%
Personal Evaluation and attendance	Every week	10%
Counselling techniques and product evaluation	Every week	10%
Total		100%

Course objectives	Percentage
1. Preparation and dispensing solution dosage forms with adequate labels	30%
2. Performing pharmaceutical literature search using available books and internet resources.	15%
3. Performing patient counseling	15%
4. Understanding and practicing sterile filtration techniques.	10%
5. Understanding some physicochemical properties of drugs. (pKa, pH, and solubility)	30%

Teaching & Learning Methods
<ul style="list-style-type: none"> 1- lab notes and self reading material 2- using reliable source of information to obtain pharmaceutical and therapeutic information of different drugs 3- experimental compounding of different solution formulation 4- practice role plays for patient counseling 5- carry out experiments related to physicochemical properties of drugs 6- observe and practice aseptic sterilization techniques

Course content		
week	Topics	Details
1	Preparation of oral rehydration solution (ORS)	1-Compounding of ORS formula by accurately weighing then dissolving electrolyte and non-electrolyte solutes in aqueous medium. 2-practice patient counseling to a patient taking ORS. 3-calculate ionic strength & the concentration of different solutes in different units (M,N,%,...etc)
2	preparation of Buffers	1-prepare buffer solutions of different pH values using the Henderson-Hasselbalch equation for weak acids.

3	Buffers and buffer capacity	1-Understanding the effect of buffer composition on the ability of a buffer system to withstand changes in pH. 2-knowing how to evaluate the capacity of a buffer system. 3-Literature search assignment.
4	Preparation of ear solution drops	1- Compounding wax removing ear solution (sodium bicarbonate ear drops). 2- Literature search therapeutic information related to proper administration of the compounded preparation. 3-practice patient counseling.
5	Preparation of nasal isotonic solution drops	1- Compounding decongestant nasal preparation 2-practice isotonicity calculations. 3- Literature search therapeutic information related to proper administration of the compounded preparation. 4-practice patient counseling.
week	Topics	Details
6	Preparation of ophthalmic solution drops	1-Compounding of phenyl ephrine Hcl eye drops with aseptic sterilization and filling inside laminar flow hood. 2-Practice aseptic sterilization techniques inside laminar flow hood. 2- Literature search therapeutic information related to proper administration of the compounded preparation. 3-practice patient counseling.
7	Solubility: solubility enhancement techniques	1-determine the aqueous solubility of salicylic acid at different temperatures, and different pH values.
8	Preparation of elixir	1- Understand the cosolvency principle. 2-Compounding elixir formulation.

		3- Literature search therapeutic information related to proper administration of the compounded preparation. 4-practice patient counseling.
9	Preparation of medicated syrup	1- Compounding a medicated syrup formulation. 2- Literature search therapeutic information related to proper administration of the compounded preparation. 3-practice patient counseling.
10	Preparation of parental IV solutions.	1- Practice using available literature to obtain IV mixture compatibility information. 2- Exercise searching for compatibility of given IV mixtures. 3- Practice preparation of IV mixtures under aseptic (laminar flow hood) conditions.

Additional notes	
Lab rules	Dressing code: Professional dressing is required, with a clean lab coat and tag name.
Exams	The format for the exams is generally (but NOT always) as follows: Multiple-choice and short essay questions.
Makeup Exams	<ul style="list-style-type: none"> Make up exam should not be given unless there is a real valid excuse.
Cheating	<p>The commitment of the acts of cheating and deceit such as copying during examinations, altering examinations for re-grade, plagiarism of homework assignments, and in any way representing the work of others as your own is dishonest and will not be tolerated. Standard JUST policy will be applied</p> <p>إذا ضُبط الطالب أثناء الامتحان أو الاختبار متلبساً بالغش فتوقع عليه العقوبات التالية: مجتمعة: أ- اعتباره راسباً في ذلك الامتحان أو الاختبار. ب- الغاء تسجيله في بقية المساقات المسجل لها في ذلك الفصل. ج- فصله من الجامعة لمدة فصل دراسي واحد، و هو الفصل التالي للفصل الذي ضبط فيه.</p>
Attendance	<ul style="list-style-type: none"> Excellent attendance is expected. policy requires the faculty member to assign ZERO grade (35) if a student misses 10% of the classes that are not excused. If you miss class, it is your responsibility to find out about any announcements or assignments you may have missed. Grade bonuses are subjected to attendance.
Workload	<ul style="list-style-type: none"> Average work-load student should expect to spend is ٢ hours/week
Selected References	
Books:	

1. United States Pharmacopoeia – National formulary, 2006
2. British Pharmacopoeia, 2005
3. Merck Index, 1996
4. Trissel's (Handbook of Injectable Drugs), (TBA)
5. Goodman and Gilman's (the pharmacological basis of therapeutics), 1991
6. Jordan Drug Index, 1996
7. USP DI: Drug information for the health care professional, 1998
8. Remington's pharmaceutical sciences, 1985
9. Middle East Medical Index, 1999
10. British National Formulary (BNF), 1994

Online resources:

1. Lexi-comp: <http://www.lexi.com/>; requires subscription
2. Clinical pharmacology online: <http://www.clinicalpharmacology.com/> requires subscription
3. RxList the internet drug index: <http://www.rxlist.com/script/main/hp.asp>; free
4. Drugs.com, www.drugs.com; free
5. WebMD: <http://www.webmd.com/>; free
6. PubMed: <http://www.ncbi.nlm.nih.gov/pubmed/>; free