Jerash University
Course Syllabus

Faculty of Pharmacy			
Year:	**2016/2017**	Semester:	**first**

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**	**25%**
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**	**5%**
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 practicesing sterile filtration techniques.	10%
5. Understanding some physicochemical properties of drugs. (pKa, pH, and solubility)	30%

Teaching & Learning Methods
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-Hasselebalch 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 epherine 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 cosolvancy 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	• **Make up exam should not be given unless there is a real valid excuse.**
Cheating	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 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. جـ- فصله من الجامعة لمدة فصل دراسي واحد، و هو الفصل التالي للفصل الذي ضبط فيه.
Attendance	• **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	• **Average work-load student should expect to spend is 2 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. Cinical pharmacomlogy 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