Imperial Valley College
NURSING & ALLIED HEALTH DEPARTMENT

Pharmacology I (RN)
Nursing 113 CRN 20457
Class Syllabus/Schedule Spring 2013

Time: 1315-14:45 pm Instructor: R. Fitzsimmons FNP, BC, MSN,
Day: Tuesday |Classroom: 2139 Start Date: January 15, 2013 |
End Date: May 7, 2013
Deadline to drop WITH "W": April 8, 2012 (Week 12)
Office: 2129
Phone: 355-6421
Email: rick.fitzsimmons@imperial.edu
Texts Required:

Lilley, Rainforth-Collins, Harrington & Snyder: *Pharmacology and the Nursing Process 6td ed.*
Mosby/Elsevier: ISBN: 978-0-323-05544-4

ATI Pharmacology

Recommended Text:

Snyder & Sacova: *Study Guide Pharmacology and the Nursing Process 6td ed.*
Mosby/Elsevier: ISBN: 978-0-323-06660-0
Delgin, Vallerand & Sanoski; *Davis Drug Guide for Nurses 12th ed.* FA Davis:
ISBN 10: 0-8036-2310-0 ISBN 13: 978-0-8036-2310-1
(PDA program Unbound Medicine.)

Nurs 113 (1.5 units).
PHARMACOLOGY I
Term Hours: 27 Lec, 0 Lab
Letter Grade only
Prerequisites:MATH 090, ENGL 101, PSY 101, SOC 101 or ANTH 102, BIOL 220, BIOL 204 and BIOL 206 or BIOL 200 and BIOL 202, and NURS 100, all with a grade of "C" or better.
Corequisites: NURS 110, NURS 111, NURS 112.
This course focuses on those components of pharmacology related to safe nursing care and the reduction of medication errors. The course includes information about the general classifications of drugs and principles of therapy related to the effects, actions, and therapeutic use of each drug. Nursing actions and rationale for nursing actions are explored. This class will cover drug administration throughout the lifespan, including psychosocial, gender, and cultural influences. Clinical application is integrated into the clinical nursing courses. (CSU)

Grading: Student progress in this course may be measured using exams, quizzes, pop-quizzes, homework assignments, drug cards, classroom presentation, online assignments, and simulated clinical experiences. A comprehensive final examination will be given that will count for 25% of the course grade. The final exam must be passed with a 75%. Failure of the final will result in course failure.

The course grade will be computed as follows 75% will come from an average of all assignments prior to the final exam, and 25% of the course grade will come from the final exam. Drug card and assignments will compose 40% and Tests 60% of the 75% of grade.
THERE WILL BE NO MAKE UPS FOR Tests, Exams, or Quizzes. The course grade will be computed as follows 75% will come from an average of all assignments prior to the final exam, and 25% of the course grade will come from the final exam.
RN Nursing Grading Scale
A = 92 –100%
B = 83 – 91 %
C = 75 – 82 %
D = 68 – 74 %
F = Below 68%

"Each semester of the nursing program includes at minimum a) theory course work, b) clinical experience course work, and c) nursing skills laboratory work as well as any required co-requisite courses. 1) Each of these areas must be passed with a 75% or better 2) Failure of any one part necessitates re-taking **all** three; **i.e.** theory, clinical, and skills to meet the Board of Nursing requirement for concurrent clinical and classroom study." See RN program Handbook.

Minimum course requirements for progression in the Nursing Program 1) **Final Course Grades must** be 75% („C") or better, based on ALL the following: (a) All finals will be passed with a score of 75% or better. See RN program Handbook.

Attendance: Attendance –according to the Imperial Valley College Catalog: Regular attendance in all classes is expected of all students enrolled. Instructors are expected to take a student's record into account in computing grades. A student may be excluded from further attendance in a class during any semester when absences after close of registration have exceeded the number of class hours which the class meets per week. Students who are late to class three times in any nursing course will be considered absent for one day.
Disruptive Behavior: An instructor may drop any student judged to be a disturbing element in the class. Cell phones, pagers and all electronic devices shall be turned off during class. Disruptive behavior during lecture will not be tolerated.
Miscellaneous: Students are encouraged to utilize the: Health Science Learning Center (Nursing Learning Center) Phone: 355-6530

Any student with a documented disability who may need educational accommodations should notify the instructor or the **Disabled Student Programs and Services** (DSP & S) office as soon as possible. DSP&S is located in Room 2117 in the Health Science Building. Their phone number is 760-355-6312.

Schedule changes:
This schedule is subject to change to meet the learning objectives of the course and progress of the students. The instructor has final word in all schedule changes including test dates and make up tests if any. When enrolled in the class you will accept all professional judgments on the day to day running of the class. Any concerns about the class must first be taken up with the instructor. The next person in the chain of command is the Director of the Health Sciences Division. As a student enrolled in this class you

will follow all the ***Regulations*** covered in the student handbook. Failure to follow these regulations may result in a grade of (F).

Cheating: Students caught cheating or attempting to cheat on exams will be given a zero for that exam. The student may also be referred to the Dean of Instruction for further discipline. Cheating includes, but is not limited to looking at another stunt's paper, opening any other computer window outside of test window, minimized cheat sheets, speaking out answers or questions, the use of open box or notes, finger spelling in sign language, notes written on skin, or text messaging or use of high tech gadgets to provide testing material.

ATI Testing: An ATI test in pharmacology may be required of RN students during progress thru the nursing program. Please see the Imperial Community College District Division of Nursing and Allied Health Technologies RN Program Handbook or the NLC Tutor for testing dates times. Currently students take an ATI pharmacology test in 3rd semester.

Students failing unit exams are expected to develop remediation plans and meet with the Nursing Learning Center Staff prior to the next exam. Completion of remediation plan should be documented and placed in the students Nursing File.

Student Learning Outcomes

1. The student will be capable of differentiating the principles of Pharmacology, Pharmacodynamics, Pharmacokinetics Pharmacogenetics, therapeutics and toxicology. This will be determined by passing the first test with a 75% or better.
2. Identify the mechanism of action, use, side effects and nursing interventions of medications for the pain control, bacterial & viral infection, Cardiovascular, gastrointestinal, skin, otic, ophthalmic, anemia and diabetes by passing the final with a 75 percent or better.
3. The student will be able to apply pharmacological principles in the care of patients by passing the ATI Pharmacology test in the 3rd semester and the pharmacology aspect of the predictor with a raw score of over 70% on both tests.

Date	Description	Reading is to be done prior to class so that you may be an active participant in Lecture and class activities.
1-15-2013	**Introduction to Pharmacology Basics** Nursing Process Pharm. Principles	**Lilley Ch: 1,2,** **Workbook Ch: 1,2** **ATI: Pharm Principles**
1-22-2013	**Pharmacology Basics** Life Span Issues. Special considerations: Legal, Cultural, & Ethical Gene therapy Medication Errors	**Lilley Ch: 3,4,5,6,** **Workbook Ch: 3,4,5,6,** (Note Work Book always with reading!!!) **ATI: Pharm Principles**
1-29-2013	**Pharmacology Basics** Pt Education OTC, Herbal and Dietary medications. Substance Abuse.	**Lilley Ch: 7,8,9, 10** **Workbook Ch: 7,8,9, 10** **ATI: Pharm Principles**
2-5-2013	**Test I (Ch1-10) Pharm Basics** Medications for Pain control	**Lilley Ch: 11 &** 44; **ATI:** Drug Cards Due: *Opioid Agonist*; **Morphine** (Astromorph) *Opioid Antagonist*; **Naloxene** (Narcan) *NSAID*, &**Acetaminophen** (Tylenol) **Tramadol** (Ultram)
2-12-2013	**Medications for the Treatment of Infection**	**Lilley Ch: 38, 39; ATI:** Drug Cards: Antibiotics *Sulfonamides*; **Sulfamethozazole/trimethoprim** (Bactrim/Septra) *Compare/Contrast (C/C):* *Penicillin:***Amoxicillin** (Amoxil) *Cephalosporins: 1st gen*:3rd gen **Ceftriaxone** (Rocephin) *Carbapenems;* **Imipenem/cilastatin** (Primaxin) *Macrolides:* **Erythromycin** (E-mycin) *Tetracyclines:* **Doxycycline** (Doryx) *Amionoglycosidees*: **Gentamicin** (Garamycin) *Quinolones:* **Ciprofloxacin** (Cipro)
2-19-2013	**Medications for the Tx of Infection**	**Lilley Ch: 40; ATI:** Drug Cards: *Miscellaneous:* C/C: **Clindamycin** (Cleocin) **Linezolid** (Zyvox). **Metronidazole** (Flagyl) **Vancomycin**(Vancocin) *C/C: NRTI*; **Zidovudine**(Retrovir, *NNRTI*; **Nevirapine** (Viramune), *Protease Inhibitor***;** **Saquinavir** (Invirase),*Antiviral;* **Acyclovir**(Zovirax)
2-26-2013	**Test II (Ch 11,44,38,39,40)** **Cardiac Medications**	**Lilley Ch: 25, 26; ATI:** Drug Cards: Renin blocker, C/C: **aliskiren,**;ACE, **enalapril**: ARB, **losartan**;, C/C: Adrenergic drugs, **clonidine**, **Doxazosin, nebivolol**; C/C: CCB;

		nifidepine, verapamil Sodium nitroprusside, C/C:Diuretics: **hydrpchlorothizaide, furosemide**
3-5-2013	Cardiac Medications	**Lilley Ch: 28; ATI:** Drug Cards:C/C: **Warfarin**,; **Heparin, enoxaparin, alteplase**, **C/C: aspirin, clopidogrel**
3-12-2013	Cardiac Medications	**Lilley Ch: 29; ATI:** Drug Cards: **atrorvastatin, gemfibrozil, cholestryramine, niacin**
3-19-2013	**Test III (Ch 25,26,28,29)** GI medications	**Lilley Ch: 50, 51; ATI:** Drug Cards**: C/C: Antacids, cimetidine, lansoprazole, , sucralfate, C/C:diphenoxylate with atropine, lactobacillus, C/C:lactulose,** polyethylente glycol,
3-26-2013	GI medications	**Lilley Ch: 52, 53; ATI:** Drug Cards: C/C anitemetics: **Metoclopramide, ondansetron, scopolamine: C/C: Water soluble Vit (Cyanocobalamin, ect..) C/C:Fat soluble (Vit A,Dect..), calcium**
4-9-2013	GI medications	**Lilley Ch: 54; ATI:** Drug Cards: **C/C importance with Parenteral/Enteral formuations: Amino acids, lipid emulsion, protein formulation, carbohydrate formulation**
4-16-2013	**Test IV (Ch 50,51,52,53,54)** Medications for DM	**Lilley Ch: 32; ATI:** Drug Cards: **,Glipizide, metformin, pioglitazone (actos),Sitagliptin (**Januvia)
4-23-2013	Medications for DM	**Lilley Ch: 32: ATI:** Drug Cards: C/C: **insulin (NPH & Reg, & Lispro), glargine,**
4-30-2013	Medications for Skin disorders, ears, eyes	**Lilley Ch: 56, 57, 58; ATI:** Drug Cards: C/C:**bacitracin, isotretinoin, silver sulfadiazine**, **C/C: Ophthalmic: atropine, dexamethasone, latanoprost, pilocarpine**
5-7-2013	***Comprehensive Final Exam***	

Pharmacologic
Drug Card Guidelines

The purpose of the drug cards is to have all students research drug classifications, outline them and then create a learning product. When these steps are taken your learning is enhanced. Compare and contrast means to look at similarities of drugs and classes of drugs compared to how they are individual (different). Any short cuts that you may take will be revealed in your clinical practice and didactic tests. **Tip**: **do not copy and paste to the point that you do not read or understand the material,**

All drug cards will follow the following format, or your grade will be severely impacted (**5 points per error**).

All papers will be **typed with roman or courier**, **no underlining, bold, or italics will be accepted. No pictures or designer graphics that add only looks with no informational content**. Large and small case lettering must be used as with all APA format. **Topic headers must** be used to assist in organizing the material.

All papers will have **headers on each page** with **title (drug class) and each group member's name (last name & first initial)**. Pages shall be **numbered** in proper sequence in **bottom right hand corner** (see page).

All papers will be in Paragraph form, no listing or outlining, unless used with appropriate APA indications.

All classifications need to be **described fully** in regards to 1**) how the class of drugs work,** 2) **use and effects of the class of drugs**, 3) **side effects, adverse reactions, contraindications, & drug interactions** and 4) you need to evaluate the above to determine the **nurses monitoring or teaching priorities.**

Remember, you only need to explore the drug classification. Individual drugs need not be explored in this format, unless specifically requested. Many of the classifications are explained by using a drug prototype. You may also use this drug in your explanation (Beta Blockers = Inderal).

Module A: Principles of Pharmacology

1. Statement of Purpose

Man has used drugs throughout the ages to produce desired body changes. The scientific study of drugs called pharmacology is, however, fairly recent. The exact nature of each drug is not well understood but new information is being released each day. This course presents pharmacologic agents according to major classifications, their actions, effects, and therapeutic uses related to each body system. The unique response of each individual to drugs is considered.

2. Terminology

Pure Food & Drug Act
United States Pharmacopeia (USP)
National Formulary (NF)
Federal Food, Drug & Cosmetic Act
Harrison Act
Controlled Substance Act
Pharmacology
Therapeutics
Toxicology
Pharmacodynamics
Primary effect
Secondary effect
Drug absorption
Drug distribution
Pharmacologic receptors
Antagonist
Agonist
Affinity
Chelate
Stimulation
Depression
Replacement
Bacteriostatic
Bacteriocidal
Time/Response Relationships
Dose/Response Relationships
Potency
Pharmacokinetics
Physicians' Desk Reference (PDR)

3. Learning Activities

- Develop a drug card for each major drug classification.
- Computer Programs for major drug classification.

Section 1: **The Basic Principles of Pharmacology/ The Nursing Process and Drug Administration**

Classroom Objectives

1. Define the module terminology list and all other unknown words.
2. Review administration of drugs:
   a. Calculating dosages
   b. Medication orders
   c. Routes of administration
   d. Patient rights
   e. Nurse's legal-ethical responsibility
3. Discuss general principles of drug therapy.
   a. Describe receptors and their function in pharmacology
   b. Apply Pharmacokinetics and dosing schedules.
   c. Define the function of absorption, distribution, metabolism and elimination of common medications.
   d. Pediatric dosages
   e. Geriatric dosages
4. Explain nursing actions relative to monitoring drug therapy.

Learning Activities

1. Complete the terminology list for the module and all other unknown words. Discuss in class any terms not understood.
2. Explore in class other references such as, the PDR, Facts and Comparisons, Govoni & Hayes, The Nurse's Drug Handbook and/or Nursing Drug Handbook.
3. Differentiate among each of the following drug actions:
   a. Side effects
   b. Adverse Reaction
   c. Toxic effects
   d. Allergic reaction
   e. Idiosyncratic reaction
4. Read assigned references
5. View assigned videos and computer software.

Section 4: **Cardiovascular System: Drugs Affecting Cardiac Function, Blood Pressure, Renal Function and Coagulation**

Classroom Objectives

1. Describe the major classification of drugs that affect the cardiovascular system:
   a. Digitalis glycosides
   b. Antiarrhythmic drugs
   c. Antianginal drugs
   d. Drugs used in hypotension and shock
   e. Antihypertension drugs
   f. Diuretics
   g. Anticoagulants, antiplatelet, and thrombolytic agents
   h. Lipid lowering drugs

2. Discuss principles of drug therapy that relate to drugs that affect the cardiovascular system.
3. Explain nursing actions with rationale for each for the cardiovascular system.
4. Describe patient teaching activities relative to the cardiovascular system.

Learning Activities

1. Given a case scenario, give the effects, actions and therapeutic uses of drugs affecting the cardiovascular system. Include the nurse's responsibility in monitoring these drugs as they are administered to a patient. Be specific about patient teaching.
2. Examine the PDR, Facts & Comparisons, Nurse's Drug Handbook or other reference for drugs related to the cardiovascular system.
3. Discuss issues encountered in administering drugs in the clinical setting relative to the cardiovascular system.
4. Read assigned references
5. View assigned videos and computer software.

Section 5: **Drugs Affecting the Endocrine Systems: Hormones and Related Compounds**

Classroom Objectives

1. Describe the major classification of drugs that affect the endocrine system:
   a. Hypothalamic & Pituitary Hormones
   b. Corticosteroids
   c. Thyroid & antithyroid drugs
   d. Hormones that regulate calcium & phosphorus metabolism
   e. Antidiabetic drugs
   f. Female sex hormones
   g. Ovulation stimulants
   h. Male sex hormones
2. Discuss principles of drug therapy that relate to the endocrine and reproductive systems.
3. Explain nursing actions with rationale for each for the endocrine and reproductive system drugs.
4. Describe patient teaching activities relative to endocrine and reproductive system drugs.

Learning Activities

1. Given a case scenario, give the effects, actions and therapeutic uses of drugs affecting the endocrine and reproductive system. Include the nurse's responsibility in monitoring the drugs as they are administered to a patient. Be specific about patient teaching responsibilities.
2. Examine the PDR, Facts & Comparisons, Nurse's Drug Handbook or other reference for drugs related to the endocrine and reproductive system.
3. Discuss issues encountered in administering drugs in the clinical setting relative to the endocrine and reproductive system.
4. Read assigned references
5. View assigned videos and computer software.

Section 7: **Drugs Affecting the GI System**

Classroom Objectives:

1. Describe the major classification of drugs that affect the digestive system.
   a. Drugs used in peptic ulcer disease
   b. Laxatives and cathartics
   c. Antidiarrheals
   d. Antiemetics
2. Discuss principles of drug therapy that relate to the digestive system.
3. Explain nursing actions with rationale for each for the digestive system drugs.
4. Describe patient teaching activities relative to the digestive system drugs.

Learning Activities

1. Given a case scenario, give the effects, actions and therapeutic uses of drugs affecting digestive system. Include nutrients and fluids and electrolytes. Give the nurse's responsibility in monitoring these drugs as they are administered to a patient. Be specific about patient teaching responsibilities.
2. Examine the PDR, Facts & Comparisons, Nurse's Drug Handbook or other reference for drugs related to the digestive system.
3. Discuss issues encountered in administering drugs in the clinical setting relative to the digestive system.
4. Read assigned references
5. View assigned videos and computer software.

Section 8: **Invading Organisms: Agents that Kill Invaders**

Classroom Objectives

1. Describe major classifications of anti-microbial drugs:
    a. Penicillins
    b. Cephalosporins
    c. Aminoglycosides
    d. Tetracyclines
    f. Macrolides
    g. Sulfonamides & urinary antiseptics
    h. Antitubercular drugs
    i. Antiviral drugs
    j. Antifungal drugs
    k. Antiparasitics
2. Discuss principles of drug therapy that relate to anti-microbial drugs.
3. Explain nursing actions with rationale for each for the anti-microbial drugs.
4. Describe patient teaching activities relative to anti-microbial drugs.

Learning Activities

1. Given a case scenario, give the effects, actions and therapeutic uses of anti-microbial drugs. Include the nurse's responsibility in monitoring these drugs as they are administered to a patient. Be specific about teaching responsibilities.
2. Discuss issues involved with administration of these drugs in the clinical setting.
3. Read assigned references
4. View assigned videos and computer software.