

I. COURSE INFORMATION:

A. Division: Health Science
Department: Pharmacy Technology
Course ID: PHT 030
Course Title: Pharmacology
Units: 3
Lecture: 2 hours
Laboratory: 3 hours
Prerequisite: None
Corequisite: None
Dept. Advisory: None

B. Catalog and Schedule Description:
Introduction to mechanisms of action and therapeutic uses of drugs within broad classifications. Includes physical, chemical and pharmacological incompatibilities and adverse reactions of drugs. Emphasizes common drug dosages, dosage forms, and recognition of inaccuracies of drug orders.

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: One

III. EXPECTED OUTCOMES:

Upon successful completion of the course the student should be able to:

- A. Define and discuss principles of pharmacology.
- B. Describe different medication dosage forms.
- C. Analyze factors related to the selection of different medication forms; absorption, patient acceptability, patient status, and drug elimination.
- D. Identify therapeutic uses of drug classifications on physiological systems and potential adverse reactions.
- E. Recognize dosages of selected common medications administered by different routes.
- F. Identify the physical-chemical characteristics and stability of different classes of drugs.
- G. Identify drugs or classes of drugs that commonly interact with other drugs and describe the interaction effects.
- H. Discuss cultural beliefs and values that may affect drug compliance.
- I. Describe requirements for pharmaceutical labels.
- J. Analyze prescription and doctor drug orders for completeness.
- K. Prepare accurate prescription labels containing required information for a given list of drugs and dosages.

IV. COURSE CONTENT:

- XX
- A. Principles of pharmacology
 - 1. Pharmacokinetics
 - 2. Bioavailability
 - 3. Pharmacodynamics
 - B. Solid Dosage forms
 - 1. Capsule
 - 2. Tablet
 - 3. Powder
 - 4. Ointment
 - C. Liquid medication forms
 - 1. Solution
 - 2. Suspension
 - 3. Emulsions
 - D. Routes of medication administration

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1. Oral, sublingual, buccal
 2. Parenteral (intramuscular, subcutaneous, intradermal, intravenous)
 3. Topical and transdermal
 4. Rectal
 5. Vaginal
 6. Otic
 7. Ophthalmic
 8. Nasal
 9. Inhalation
- E. Chemical and Physical Properties of Drugs
1. Storage requirements
 2. Safety considerations
 3. Resources and criteria for identifying stability and potency of drugs
- F. Preparation of medications
1. Labeling
 2. Repackaging
- G. Cultural implications affecting drug compliance
1. Timing of medications
 2. Cultural beliefs and practices
- H. Pharmacologic actions, response, potential adverse reactions, drug interactions
1. Antiinfectives (antibiotics, antivirals, antifungals)
 2. Antihistamines, decongestants
 3. Antitussives, expectorants
 4. Anesthetics, analgesics (narcotic, non-narcotic)
 5. Antidepressants
 6. Antipsychotics
 7. Antianxiety agents
 9. Anticonvulsants and other drugs to treat Nervous system disorders
 10. Respiratory drugs
 11. Gastrointestinal drugs
 12. Urinary drugs
 13. Cardiovascular drugs
 14. Muscle relaxants
 15. Hormones
 16. Topical, ophthalmic, otic drugs
 17. Chemotherapy and recombinant drugs
 18. Vitamins, nutritional supplements, herbs

V. METHODS OF INSTRUCTION (Please check all that apply and add any additional not listed)

- Lecture
- Class and/or small group discussion
- Critical evaluation of texts, newspapers, journal articles, and other printed research
- Critical evaluation of films, videotapes, audiotapes, or other media forms
- Classroom demonstrations
- Field trips
- Guest speakers

VI. TYPICAL OUT-OF-CLASS ASSIGNMENTS:

- A. Reading Assignment: Reading assignments are required and may include (but are not limited to) the following: After reading the chapter on Respiratory drugs describe the drug classes and therapeutic action of the most commonly prescribed drugs used to treat Asthma.
- B. Writing Assignment: Writing assignments are required and may include (but are not limited to) the following: Summarize the method of action of drugs commonly used to prevent and

- C. Critical Thinking Assignment: Critical thinking assignments are required and may include (but are not limited to) the following: After interviewing 10 individuals, analyze the most common stated reason for discontinuing to take a prescribed drug.

VII. EVALUATION:

A student's grade will be based on multiple measures of performance and will reflect the objectives explained above. A final grade of "C" or better should indicate that the student has the ability to successfully apply the principles and techniques taught in this course. These evaluation methods may include, but are not limited to, the following (Please check all that apply):

- Portfolios
- Projects
- Written papers or reports
- Presentations (oral and visual)
- Work performance (internships or field work)
- Lab work
- Comprehensive examinations (cumulative finals or certifications)
- Peer evaluation
- Self evaluation
- Classroom participation
- Homework
- Field Visit

VIII. TYPICAL TEXTS:

- A. Ballington, Don. Pharmacology for Technicians, 2nd edition. EMC/Paradigm, 2002.
- B. Johnston, Mike. Pharmacy Technician Series: Pharmacology. Prentice-Hall, 2003.
- C. McBride, J. Pharmacy Technician Principles and Practice. Elsevier, 2003.

IX. OTHER SUPPLIES REQUIRED OF STUDENTS:

- A. None