

Las Positas College  
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## Course Outline for PHT 52

### PHARMACOLOGY FOR PHARM TEC I

Effective: Summer 2010

#### I. CATALOG DESCRIPTION:

PHT 52 — PHARMACOLOGY FOR PHARM TEC I — 6.00 units

This course provides an introduction to the principles of pharmacology. Topics covered include the anatomy, physiology, and pharmacology relating to the central nervous system, cardiovascular and pulmonary systems, and a review of inflammation and pain management. Upon completion, students should be able to place major drugs into correct therapeutic categories and identify indications, side effects, and trade and generic names

3.00 Units Lecture 3.00 Units Lab

#### Prerequisite

PHT 50 - PHARM TEC TRAINING I (INTRO)

#### Strongly Recommended

BIO 50 - Anatomy and Physiology

#### Grading Methods:

Letter Grade

#### Discipline:

	<u>MIN</u>
<b>Lecture Hours:</b>	54.00
<b>Lab Hours:</b>	162.00
<b>Total Hours:</b>	216.00

#### II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

#### III. PREREQUISITE AND/OR ADVISORY SKILLS:

**Before entering the course a student should be able to:**

##### A. PHT50

1. discuss the drug classification system;
2. explain common indication/usage of drugs;
3. integrate medical terminology into written and verbal communication with other medical professionals;
4. organize pertinent information collected from the patients;
5. prepare medications according to directions from ordering agent;
6. perform inventory control procedures;
7. compare and contrast regulations for over-the-counter medications with other types of prescription and controlled drug regulations;
8. comply with all federal, state and local laws, and regulations;
9. consistently demonstrate professional and ethical standards.

**Before entering this course, it is strongly recommended that the student should be able to:**

##### A. BIO50

#### IV. MEASURABLE OBJECTIVES:

**Upon completion of this course, the student should be able to:**

1. apply knowledge of principles of pharmacology to the role of Pharmacy Technician;
2. predict the mechanism of drug action for common drugs within a drug classification;
3. summarize general principles of pharmacokinetics;
4. articulate general principles of pharmacodynamics;
5. give examples of various types of drug interactions;
6. describe factors affecting drug action; side effects, and drug interactions;
7. describe the anatomy and physiology of major body systems.
8. summarize common symptoms associated with major diseases;
9. formulate drug treatments for major diseases of the central nervous system, cardiovascular system, pulmonary system;
10. recognize common drugs used in the treatment of pain and inflammation

11. summarize poisonous substances and their antidotes;
12. know generic and brand names of pharmaceuticals
13. describe epidemiology and risk factors for various diseases
14. describe the drug allergies
15. describe the effect of patient's age on drug therapy

#### V. CONTENT:

- A. Pharmaceutical dosage forms:
  1. Physiochemical properties of a drug
  2. Describe the advantages and disadvantages of different pharmaceutical dosage forms
  3. Characteristics of solution and suspension
- B. Drug classification and uses:
  1. Basic anatomy and physiology
  2. Drug treatment for different body tissue/structures problems
  3. Drug treatment for acute problems/disease
  4. Drug treatment for chronic problems
  5. Prophylactic treatment
  6. Over the counter medications
- C. Pharmacology
  1. Drug half-life
  2. Pharmacokinetics
  3. Bioavailability
  4. Drug interactions
- D. Mechanisms of action and adverse effects of CNS drugs
  1. anatomy and physiology of the central nervous system
  2. Antidepressants
  3. Anticonvulsants
  4. Sedative hypnotics
  5. Antiparkinsons
  6. Antipsychotics
  7. Drug interactions
- E. Mechanisms of action and adverse effects of NSAIDs
  1. physiology of inflammation
  2. nonsteroidal anti-inflammatory drugs (NSAID)
  3. Drug interactions
  4. Narcotic analgesics
- F. Mechanisms of action and adverse effects of cardiovascular drugs
  1. anatomy and physiology of the cardiovascular system
  2. diseases of the cardiovascular system
  3. cardiovascular drugs of the ANS
  4. Calcium blockers
  5. Sodium channel blockers
  6. anti-hypertension and angina drugs
  7. ACE inhibitors
  8. Diuretics
  9. Drug interactions
- G. Mechanisms of action and adverse effects of pulmonary drugs
  1. anatomy and physiology of the pulmonary system
  2. diseases of the pulmonary system
  3. Asthma
  4. Beta-agonists
  5. Steroids
  6. Drug interactions

#### VI. METHODS OF INSTRUCTION:

- A. **Lecture** -
- B. **Demonstration** -
- C. Build interest, maximize describing and retention; problem solving and critical thinking skills: a. Text reading b. Handouts c. Research d. Written assignments e. Group discussion f. Group project g. Individual presentation h. Group presentation
- D. **Lab** -
- E. **Discussion** -

#### VII. TYPICAL ASSIGNMENTS:

- A. Research paper for a prescription drug of students' choices, on drug classification, mechanism of action, common side effects and drug indications, recommended dosage
- B. Oral Presentation on an over the counter drug of students' choices
- C. Group project on the care and use of either a glucometer or a sphygmomanometer
- D. Quiz on weekly reading assignment
- E. Demonstrate application from laboratory assignment

#### VIII. EVALUATION:

- A. **Methods**
  1. Exams/Tests
  2. Research Projects
  3. Papers
  4. Oral Presentation
  5. Class Participation
- B. **Frequency**
  1. Frequency:
    - a. Two midterms
    - b. Weekly quizzes
    - c. One research paper
    - d. One individual presentation
    - e. One group project/presentation
    - f. Comprehensive final examination

#### IX. TYPICAL TEXTS:

1. Johnston *Pharmacology: The Pharmacy Technician Series.* , Prentice Hall , 2003.

2. Morton *Pharmacy Technician*. 3rd ed., Perspective Press, 2007.
3. Woodrow *Essential of Pharmacology for Health Occupations w/CD*. 5th ed., -, 2007.
4. Hopkins APhA's *Complete Math Review for Pharmacy Technician*, . 2nd ed., -, 2006.

X. OTHER MATERIALS REQUIRED OF STUDENTS: