Las Positas College
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Course Outline for PHT 53

PHARMACOLOGY FOR PHARM TEC II

Effective: Fall 2010

I. CATALOG DESCRIPTION:
PHT 53 — PHARMACOLOGY FOR PHARM TEC II — 6.00 units

Anatomy, physiology, and pharmacology relating to the gastrointestinal, endocrine and reproductive systems. Topics also include antibiotic, vitamins, and chemotherapy used in treating various cancers. 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 52 - PHARMACOLOGY FOR PHARM TEC I
with a minimum grade of C

Strongly Recommended
BIO 50 - Anatomy and Physiology

Grading Methods:
Letter Grade

Discipline:

	MIN
Lecture Hours:	54.00
Lab Hours:	162.00
Total Hours:	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. PHT52
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. summarize poisonous substances and their antidotes;
10. know generic and brand names of pharmaceuticals
11. describe the drug allergies
12. describe the effect of patient's age on drug therapy

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. summarize common symptoms associated with major diseases;
8. describe the anatomy and physiology of major body systems;

9. identify pharmaceutical treatments for major diseases of the gastrointestinal system, endocrine and reproductive systems;
10. recognize common antibiotics and anti-infectives;
11. compare chemotherapeutic agents and their actions;
12. discuss hormonal therapy;
13. summarize the biological activity of vitamins and supplements ;
14. describe potential interactions between vitamins and pharmaceutical drugs;
15. summarize poisonous substances and their antidotes;
16. know generic and brand names of pharmaceuticals
17. describe epidemiology and risk factors for various diseases
18. describe drug allergies
19. describe the effect of patient's age on drug therapy

V. CONTENT:

A. Pharmacology
   1. Drug half-life
   2. Pharmocokinetics
   3. Bioavailability
   4. Drug interactions

B. Mechanism of action and adverse effects of antibiotics
   1. Biology of infection
   2. Bacteriostatic antibiotics
   3. Bacteriocidal antibiotics
   4. Combination therapy
   5. antiviral drugs
   6. antifungal drugs
   7. antitubercular drugs

C. Mechanisms of action and adverse effects of cancer drugs
   1. Biology of cancer
   2. Classes of chemotherapies
   3. Alkylating agents
   4. Antimetabolite antineoplastic drugs
   5. Mitotic inhibitors
   6. Antiemetic therapy
   7. Therapies to manage adverse effects

D. Mechanisms of action and adverse effects of GI drugs
   1. Anatomy and physiology of the gastrointestinal tract
   2. Proton pump inhibitors
   3. Ulcer management
   4. Laxatives
   5. Anti-diarrheals
   6. Anti-parasistic

E. Mechanisms of action and adverse effects of endocrine drugs
   1. Anatomy and physiology of the endocrine system
   2. Diabetes Type-I therapies
   3. Diabetes Type-II therapies
   4. Hypothyroidism
   5. Hyperthyroidism
   6. Hormonal therapy
   7. Oral contraceptives

F. Vitamins & Minerals
   1. Water soluble vitamins
   2. Fat soluble vitamins
   3. Vitamin deficiencies
   4. Essential minerals

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 assignments 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 Occupation w/CD.* 5th ed., -, 2007.
4. Hopkins *APhA's Complete Math Review for Pharmacy Technician.* 2nd ed., -, 2006.

X. OTHER MATERIALS REQUIRED OF STUDENTS: