



NORTH IDAHO COLLEGE

## ***Applied Pharmacy Technology I - PHAR 171***

COURSE SYLLABUS - Fall 2008

**Course Description:** This course is designed to provide students with background information and knowledge about pharmacy practice in a variety of settings including ambulatory, home care and institutional pharmacy. Overviews of prescription processing and filling in both ambulatory and institutional settings will be covered. Students will develop entry level skills for prescription interpretation and processing by completing both paper and electronic assignments. In addition to prescription processing other topics that will be covered include the following: role of the pharmacist versus the technician, dosage forms, routes of administration, drug/medical abbreviations, insurance billing, drug information, medication errors, purchasing and inventory control, computer technology, professionalism and customer service. The knowledge base and skills developed in this course will focus toward preparing students for their first practicum experience during Spring semester.

### **Course Outcomes:**

At the completion of this course, you should be able to:

- 1) Describe four different pharmacy practice settings.
- 2) Identify the responsibilities of a pharmacist and a pharmacy technician.
- 3) Demonstrate a basic knowledge of pharmacy computer operations.
- 4) Demonstrate correct use of appropriate pharmacy references.
- 5) Correctly interpret basic prescriptions and medication orders and demonstrate basic prescription processing skills.
- 6) Explain the primary causes of medication errors and strategies for avoidance of medication errors.
- 7) Identify procedures for pharmacy inventory management and control and for billing and insurance claims processing.
- 8) Demonstrate professionalism in the provision of pharmacy services.

### **Assessment of Outcomes:**

You will demonstrate achievement of the course outcomes by satisfactorily completing laboratory exercises, assignments, quizzes and exams throughout the semester. A project (either individual or group) will also be required.

## **Course Objectives:**

At the completion of this course, you will be able to do the following:

### **I) Pharmacy practice settings and the role of the pharmacy technician**

#### **A) Pharmacy practice settings**

- 1) Describe health care delivery in the USA and the forces that influence it.
- 2) List four settings in which pharmacy is practiced.
- 3) Define the following health care settings and describe the role of pharmacy in each: ambulatory care, long term care, home health care, institutional pharmacy, retail pharmacy,
- 4) Define pharmaceutical care and describe the role of the pharmacy technician in providing pharmaceutical care.
- 5) State the purpose of a pharmacy policy and procedure manual and describe its' practical use.
- 6) Describe potential future roles for pharmacy technicians.

#### **B) Pharmacy technician vs. pharmacist role**

- 1) State the legal definition of a pharmacy technician according to ID state law and WA state law.
- 2) Identify the job tasks that a pharmacy technician may legally perform.
- 3) Differentiate between pharmacist responsibilities and pharmacy technician responsibilities.
- 4) List examples of job tasks that would be considered "practicing pharmacy".
- 5) Explain the pharmacist to pharmacy technician ratio in ID and WA.
- 6) Define PTCB and the role it plays in the pharmacy technician profession.

### **II) Drug information/pharmacy references**

- A) Distinguish between core pharmacy references, computerized references, journals, newsletters and other types of pharmacy references that are available.
- B) Identify at least two important drug information references that should be available in a pharmacy.
- C) Accurately utilize a pharmacy reference to find dosage forms, strengths, sizes, manufacturers and brand & generic names of drugs.
- D) Accurately complete a drug monograph.
- E) Distinguish between the pharmacy technician role vs. pharmacist role in providing drug information.

### **III) Interpreting and processing medication orders and prescriptions**

#### **A) Medical and Latin Abbreviations**

- 1) Interpret and state common medical and Latin abbreviations in layman's terms as they would appear on a prescription.
- 2) Identify correct drug names for commonly used abbreviations.
- 3) Identify the correct meanings for commonly used apothecary symbols.
- 4) Interpret basic prescriptions that utilize medical, Latin and apothecary abbreviations.

#### **B) Dosage forms and routes of administration**

- 1) State the definition of each different dosage form that is commercially available for patient use.
- 2) For a particular drug product, identify all of the dosage forms that are available.
- 3) Explain the importance of choosing the correct dosage form for a prescription.
- 4) State the definition of the various routes of administration.
- 5) Compare route of administration to dosage form.

#### **C) Product Identification**

- 1) Find and replace stock bottles of drug products on the pharmacy shelves for oral capsules, tablets and liquids and for topicals, injectables and miscellaneous products.
- 2) Locate the national drug code (NDC) number, manufacturer and number of units/container on stock bottles of various drugs.
- 3) For the NDC number:
  - state what each of the three sets of numbers identifies for a drug product
  - explain the importance and use of NDC numbers in pharmacy practice
- 4) Explain how to recognize drugs that are controlled substances and explain how these drugs must be handled in a pharmacy.

#### **D) Interpreting the prescription**

- 1) Distinguish between an ambulatory prescription and a hospital medication order.
- 2) Identify the components of a complete prescription or medication order
- 3) Correctly interpret basic (beginning level) *signatures* (sigs) that are commonly found on prescriptions and medication orders.
- 4) Correctly interpret basic (beginning level) drug names, dosage forms, strengths and quantities for prescriptions and medication orders.
- 5) List information that is necessary to make a medication label complete.

6) List information that is commonly found and/or required in a patient medication profile.

E) **Prepare and fill 1 ambulatory prescription so that it is ready for the final check.**

- 1) accept and check a written prescription, gathering all of the necessary data
- 2) prepare the prescription label (write out by hand)
- 3) accurately choose the correct drug product to fill the prescription
- 4) accurately count the drug product and choose the correct container size to fill the prescription; label prescription
- 5) correctly file the hard copy of the prescription after it is filled

F) **Prepare and fill 1 hospital medication order so that it is ready for the final check.**

- 1) accept and check the medication order for completeness
- 2) prepare the medication label (if necessary)
- 3) accurately choose the correct drug product to fill the med order
- 4) accurately count the drug product
- 5) correctly file the hard copy of the med order after it has been filled.

**IV) Medication Errors**

- A) Describe the different types of medication errors.
- B) Identify causes or factors that contribute to medication errors.
- C) Describe things that can be done to prevent medication errors from occurring.
- D) List examples of common medication errors distinguishing between potential errors and actual errors.
- E) Recognize the possible consequences of actual medication errors.
- F) Describe steps to be taken when an error has been identified.

**V) Computer technology**

- A) Explain the use of pharmacy prescription software program in both ambulatory and institutional settings including the following components.
  - menu-driven software system
  - data entry
  - patient profiles and patient data entry
  - inventory management
  - physician data entry
  - third party billing capabilities
  - computer terminology
- B) Differentiate between the needs of a computer system for ambulatory pharmacy vs. institutional pharmacy.
- C) Describe computer applications for bar coding, light pen, voice recognition and the electronic medical record.

- D) Demonstrate the following functions on the pharmacy software program.
- Log on and off the pharmacy program in the pharmacy lab.
  - add 2 new patients to the data base by accurately entering data into patient profile
  - edit 1 patient profile information on existing patients
  - add 1 new physician to the data base

**VI) Purchasing, inventory management and billing and pricing procedures**

- A) Define “drug formulary” and describe the formulary process.
- B) Demonstrate proper principles and processes when ordering, receiving and storing pharmaceuticals.
- C) Demonstrate handling of pharmaceutical products that takes into consideration packaging, labeling and storage requirements.
- D) Describe the appropriate processes for maintaining and managing a pharmaceutical inventory.
- E) Describe how a pharmaceutical recall should be handled.
- F) Describe the process for borrowing and lending pharmaceuticals between pharmacies.

**VII) Professionalism and customer service**

- A) List potential “customers” of pharmacy services.
- B) Define and describe common courtesies.
- C) Explain the importance of communication skills in providing pharmacy services.
- D) Demonstrate strategies for identifying and dealing with customer complaints and/or the “problem patient”.
- E) Describe appropriate dress, language and behavior in the workplace.
- F) Demonstrate strategies for interacting with co-workers.

**Specific Course Requirements:**

Students are required to read the assigned reading prior to each class. Assignments should be completed on the due date so that discussion and interaction is valuable. This class is geared toward preparing the student to start in practical experiences during spring semester so each topic covered will be pertinent to experiential training. Attendance is very important because a large volume of information is covered in each class meeting. Attentiveness (listening) and respectful attitude toward instructor and other students is expected.

**Attendance Policy:**

Attendance is very important. Some of the coursework is designed to be completed in class in a laboratory setting that may be available for only one week at a time. It may be impossible to make up assignments and experiences from lab. Therefore, it is imperative that students attend class. Excessive absences will cause the student to fall behind in the coursework. Students will receive 3 points for each class session they attend.

**Evaluation:**

Attendance and participation (4pts/class)	60 pts
Assignments (including lab assignments)	350 pts
Quizzes (2 @ 25 pts each)	50 pts
Project	50 pts
Midterm	100 pts
Final	<u>100 pts</u>
Total points possible	710 pts

**Grading scale (as per the Allied Health Student Handbook):**

A	94-100%
A-	90-93%
B+	88-89%
B	83-87%
B-	80-82%