

PMT 112 Pharmacy Practice for Pharmacy Technicians II

Syllabus

Academic Year 2013 - 2014

COURSE DESCRIPTION: This course provides the student with the knowledge to be able to begin participation in prescription/order processing in a pharmacy. The course includes an introduction to drug formulation, pharmacy operations, third party billing and inventory control that are essential to working in a pharmacy. A general introduction to biopharmaceutics and drug action will be provided.

CREDITS: 3

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PREREQUISITES: Complete Pharmacy Practice for Pharmacy Technicians I.

REQUIRED TEXTS: APhA, *The Pharmacy Technician 5th edition*, Morton 2013

APhA, *Workbook & Certification Review, 5th edition*, Morton 2013

COURSE OBJECTIVES: Upon completion of this course, the successful student will be able to:

- Define and give examples of various drug dosage forms including oral, topical, parenteral and those for inhalation.
- Define the steps involved in processing a community based prescription and a hospital (institutional) drug order.
- Define extemporaneous compounding, the need for it, and the equipment used.
- Describe general procedures for sterile compounding including the equipment used.
- Describe Unit-dose packaging and explain the reasons it can be beneficial.
- Explain the differences between Medicare and Medicaid, and Medicare Parts A, B and D.
- Describe the general process for submitting claims to 3rd party payers and the information required for claim submission as well as audit processes.
- Explain how a drug produces a pharmacologic effect
- Explain the importance of bioequivalence

TEACHING PROCEDURES:

- Lectures and discussions based on material in the text will emphasize immediate feedback from the students to determine comprehension.
- Students will be asked to participate in classroom discussion by bringing experiences from the clerkship into discussion in the classroom.
- Small group work to discuss assigned topics.

EDUCATIONAL PHILOSOPHY:

Students are expected to learn and demonstrate study and work skills that will give them the opportunity to succeed in both the classroom and the workplace. Some of the skills that will allow the student to become a “healthcare professional” are having good attendance, being punctual, reading assigned parts of the text, asking questions, taking notes, listening carefully, studying and reviewing class material, and taking part in classroom discussion.

We expect students to demonstrate the respect that every person desires by being courteous to the instructor and to fellow students and by showing consideration to others. In this regard please adhere to the following policies:

- **ALL CELL PHONES MUST BE OFF DURING CLASS TIME.**
- UNLESS GROUP WORK IS BEING DONE IN THE CLASSROOM, ONLY ONE PERSON SPEAKS AT A TIME.
- ARRIVING TO CLASS LATE SHOWS DISRESPECTFUL BEHAVIOR AND DISRUPTS THE FLOW OF LEARNING.
- PERIODIC BREAKS WILL BE TAKEN. STUDENTS MUST NOT LEAVE CLASS WHILE THE LECTURE IS IN PROGRESS. THIS IS DISRUPTIVE AND DISRESPECTFUL.
- CHEATING IS UNACCEPTABLE BEHAVIOR. IT INCLUDES CHEATING ON TESTS AND COPYING HOMEWORK FROM TEXTBOOKS OR OTHER STUDENTS.
- YOU WILL BE GIVEN PERIODIC BREAKS DURING CLASS. STUDENTS MUST NOT LEAVE CLASS WHILE THE LECTURE IS IN PROGRESS. THIS IS DISRUPTIVE TO THE CLASS AND DISRESPECTFUL.

All disrespectful behavior will be addressed according to the academic policies and procedures of the College.

By working together much can be achieved. If the student is having any problems that make it difficult to do this work and or to attend classes, he or she should speak to the instructor immediately. Many times the instructors and staff can work with and assist the student to solve these problems and to succeed in completing the program.

HOMEWORK:

Your homework will be to read the assigned pages in the text BEFORE coming to class. Complete any other handouts or assignments that are given. If you are absent, it is your responsibility to do the homework and pass it in during the NEXT scheduled class you attend.

HOW YOUR GRADE IS COMPUTED:

- Tests will be on material covered during class. The exam and quizzes will be multiple choice (choosing the best out of 4 possible answers), and short answer questions.
- If you earn less than 80% on any quiz you should make an appointment with the instructor to go over the exam and demonstrate that you understand the material.
- If you are absent for an exam/quiz and do not call the instructor BEFORE the class you will lose the privilege of taking a make-up exam/quiz.
- Use of electronic or paper dictionaries during exams is not allowed.
- The final exam will be all inclusive of the material covered in this five week course.

Percentage Breakdown of your Final Grade

Final Exam	40%
Homework	15%
Weekly Quizzes	40%
Attendance	5%

100%

A	Equivalent to a numerical grade of	94 - 100
A-	Equivalent to a numerical grade of	90 - 93
B+	Equivalent to a numerical grade of	87 - 89
B	Equivalent to a numerical grade of	83 - 86
B-	Equivalent to a numerical grade of	80 - 82
C+	Equivalent to a numerical grade of	77 - 79
C	Equivalent to a numerical grade of	70 - 76
D	Equivalent to a numerical grade of	60 - 69
F	Equivalent to a numerical grade of	0 - 59

A grade of “B-” or better in all courses is required for progression in the program.

ABSENCE AND LATENESS POLICY:

Attendance will be taken at the beginning of the period. If you arrive after attendance has been taken, it is counted as a late class. Frequent absences and lateness will result in a lowered grade or failure of the course. You will be asked to speak with the instructor to determine and document a plan to deal with the situation if the instructor considers absence or lateness to be a problem.

It is necessary to call the instructor if you are absent. Please leave a message on the appropriate instructor phone number BEFORE class begins that you will not be attending class that day. This is what you will be expected to do in a work situation so it is a mandatory part of this program.

Bunker Hill Community College is committed to providing equal access to the educational experience of all students in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1994. Any students with a documented disability requiring an accommodation should immediately speak to the professor. Students with disabilities, who have not already done so, should schedule an appointment at the Office for Students with Disabilities (Room D106A) to obtain appropriate services.

COURSE OUTLINE

Topic 1

- **Characteristics of Dosage Formulations**
- Chapter 7: Routes and Formulations
 - Describe at least four different types of solid oral dosage forms
 - Describe at least three different liquid oral dosage forms
 - Contrast various topical formulations and reasons for their use
 - List the various parenteral formulations and methods for their administration
 - Describe several systems for oral inhalation of drug product

Topic 2

- **Sterile Product Preparation**
- Chapter 8: Parenteral and Sterile Formulations
 - Define sterile compounding
 - Identify the types of sterile parenteral solutions
 - Identify the equipment used in sterile compounding
 - Explain the importance of using laminar flow hoods and aseptic techniques
 - List the factors that affect incompatibilities in parenteral solutions
 - Define gauge, coring, depth filter and final filter

Topic 3

- **Non-Sterile Product Preparation**
- Chapter 9: Compounding
 - Define extemporaneous compounding
 - Explain the need for compounded formulations
 - Explain how to determine expiration dating for a compound
 - List equipment commonly used in compounding
 - Describe the proper use volumetric glassware
 - Understand storage temperature definitions
 - State the definition for a Class A balance

Topic 4

- **Drug Information and Pharmacy Organizations**
- Chapter 12: Common References
 - Identify information found in the package insert
 - List three additional sources for drug information and the type of information they contain
 - State the purpose of medication guides that are available for select drugs
 - Describe the “Orange Book” and its use for generic substitution
 - List two web reference sites that are useful for the technician
 - List four pharmacy organizations of interest to the technician

Topic 5

- **Inventory Control**
- Chapter 13: Inventory Management
 - Understand the goal of inventory control
 - Understand the areas of focus for most benefit in inventory control
 - Explain reorder points
 - Understand the role wholesalers play in ordering and inventory control
 - Understand procedures for stocking and storing pharmacy inventory
 - Explain the function of a drug formulary

Topic 6

- **Financial and Third Party (Insurance) Issues**
- Chapter 14: Financial Issues
 - Understand what managed care is and be able to compare, HMOs, POSs and PPOs
 - Understand the difference between Medicare and Medicaid
 - Differentiate Medicare Parts A, B and D
 - Explain the differences between generic and trade name drugs and how they affect patient and pharmacy costs
 - Identify information needed for processing insurance claims
 - Describe on-line adjudication

- Identify common claim problems and state ways to resolve them
- Understand the audit process of 3rd party payers

Topic 7

- **Prescription Processing in the Community Pharmacy**
- Chapter 15:Community Pharmacy
 - Understand the process and describe the steps in preparing and processing a prescription from prescription intake to patient pick up
 - Understand the importance of identifying errors as they occur in the prescription filling process
 - List the information needed to create/update a patient profile
 - List the required information on a prescription
 - State steps in the prescription process which can be fulfilled by the technician

Topic 8

- **Prescription (Order) Processing the Hospital**
- Chapter 16: Hospital Pharmacy
 - Describe the process of filling an order
 - Identify the roles for a technician in a hospital pharmacy
 - Define hospital formulary and therapeutic exchange
 - Give examples of why unit dose medications are used in the hospital
 - Compare inpatient with outpatient order completion
 - Explain the importance of an MSDS

Topic 9

- **Unit-Dose Packaging**
 - List the steps in repackaging a medication
 - List three reasons unit-dose packaging may be valuable
 - List the information required on a unit-dose package
 - Explain the calculation of expiry dates used in repackaged products

Topic 10

- **Biopharmaceutics and Pharmacokinetics**
- Chapter 10: Basic Biopharmaceutics
 - Explain how a drug produces a pharmacologic effect
 - Explain the terms in ADME
 - Explain why a blood concentration-time profile is an accepted means to describe drug concentration at the site of action
 - Explain at which points in the blood concentration-time curve each of the ADME processes happening
 - How does the FDA use bioequivalence information and why is it important to the technician
 - Explain how to determine a drug's half-life

Topic 12

- **Factors Affecting Drug Activity**
- Chapter 11: Factors Affecting Drug Activity
 - List physiological factors that influence drugs and may lead to an altered response
 - Describe how common diseases state can lead to an altered drug response
 - Understand common ADRs and how they can occur in one person but not others
 - Understand drug-drug interactions that impact the drug at the site of action
 - Describe how drug-drug interactions may alter drug disposition

FINAL EXAM November 8, 2013

Schedule tentative and subject to change.

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