Bossier Parish Community College
Master Syllabus

Course Prefix and Number: PHAR 110
Credit Hours: 2

Course Title: Sterile Products

Course Prerequisite: Admission to the Clinical PTEC Program

Course Co-requisite: Phar 120; Phar 110 Lab

Textbooks: Johnston, Mike; The Pharmacy Technician Series: Sterile Products, 2nd edition

Course Description:
This course is designed to provide an introduction to aseptic techniques, admixture preparation, incompatibility and stability, irrigation solutions, calculations for intravenous solutions, total parenteral nutrition and chemotherapy.

Learning Outcomes:

At the end of the course, the student will

I. The foundational knowledge and skills necessary to function as a pharmacy technician in various pharmacy settings.
   A. Perform mathematical calculations essential to the duties of the pharmacy technicians in a variety of contemporary settings.
   B. Demonstrate understanding of the pharmacy technician’s role in the medication-use process.
   C. Practice effective infection control procedures, including preventing transmission of blood borne and airborne diseases.

II. Skills and knowledge necessary to assist the pharmacist in the correct handling of medication and medication order processing.
   D. Assist pharmacist in preparing, storing, and distributing medication products requiring special handling and documentation.
   E. Prepare patient-specific medication for distribution.
   F. Use material safety data sheets to identify, handle, and safely dispose of hazardous materials.

III. The ability to accurately and safely perform sterile and non-sterile compounding.
   G. Prepare medications requiring compounding of sterile products.
IV. Application of patient and medication safety in all aspects of the operation of a pharmacy.

H. Apply patient and medication safety practices in all aspects of the pharmacy technician’s roles.

V. Application of the principles of quality assurance in pharmacy operations.

I. Explain procedures and communication channels to use in the event of a product recall or shortage, a medication error, or identification of another problem.

To achieve the learning outcomes, the student will

1. list the responsibilities of the pharmacist in preparing admixtures. (D)
2. list the responsibilities of the pharmacy technician in preparing admixtures. (B)
3. explain the responsible, conscientious attitude needed to compound and dispense IV admixtures. (D)
4. explain the advantages and disadvantages of intravenous administration. (G)
5. differentiate between types of intravenous admixtures. (G)
6. list the types and items necessary for the setup of IV administration continuous and intermittent sets. (B)
7. explain about volume control chambers in IV administration sets. (B)
8. list the ways drugs are developed and classified. (F)
9. describe the different types of drug packaging and storage in institutions. (B, D, E)
10. explain the concept of drug action and factors influencing drug dosage and adverse drug reactions. (I)
11. explain what the IV characteristics, such as clarity, sterility, pH, and isotonicity, are. (H)
12. explain why drugs are administered by infusion. (A, B, G)
13. list the types of solutions used in IV’s and the terms, maintenance vs. replacement therapy. (G, E)
14. explain the variable such as the incidence, types and factors affecting causing incompatibilities. (G, H)
15. identify the guidelines and responsibilities for minimizing and eliminating incompatibilities. (G)
16. list the parts of prescriptions and describe the legibility issues. (B)
17. describe what a formulary is and how it affects your practice. (B)
18. utilize basic calculations such as fractions, metric weights and measures, ratio and proportion. (A)
19. calculate using the alligation method of admixtures with several different medications in sterile products. (A)
20. describe the layout of facilities with admixture services, the airflow pattern necessary, equipment needed and laminar flow hoods. (D, G)
21. describe and identify the parts of a needle and syringe, and how to choose the appropriate size and type filters. (B, D, G, H)
22. describe the different solution container types, sizes, and characteristics. (D, G)
23. describe the necessary process involving aseptic technique and procedures, equipment, and personnel. (B, C, G)
24. list the sizes and techniques necessary when working with various medications, vial, ampules, and filters. (B, G)
25. describe bulk reconstitution in IV admixtures. (A, B, E, G)
26. identify the types of admixtures such as ready-to-mix, premixed, and frozen IV admixtures. (B, D, E, G)
27. describe the rational for parenteral nutrition solution use, their composition, problems seen compounding and administering, and the administration route. (A, B, E, G, H)
28. explain the different methods of cancer treatment and the drugs commonly available to prepare. (E, F, H)
29. describe the different machines that are available to assist in the compounding of parenteral nutrition solutions. (B, D, E, H)
30. list the parts of protective gear available in compounding chemotherapy drugs, the cleanup of chemo spills, and the necessary environmental precautions to take. (F, I)
31. describe the proper flow of information in the orders of an admixture. (A, B, D, G)
32. explain the duties that a technician would do in the preparation of the order, to the completion of the medication’s delivery in the patient care area. (A, B, C, D, E, G)
33. explain what the <USP 797> regulations are and the necessity of following <USP 797> standards in preparation and storage of IV medications. (B, D, E, G, H, I)
34. explain what the <USP 800> regulations are and the necessity of following <USP 800> standards in handling hazardous materials. (B, D, F, G, H, I)

**Course Requirements:** To earn a grade of “C” or higher the student must earn 70% of the total points for the course and meet all of the following course requirements.

- minimum average of 70% on the comprehensive midterm and final exam
- minimum overall grade average of 70% in lecture class

**Course Grading Scale**

A- 90% or more of total possible points (minimum average of 70% in lecture minimum average of 70% on the midterm and final exam.

B- 80% or more of total possible points (minimum average of 70% in lecture minimum average of 70% on the midterm and final exam.
C- 70% or more of total possible points (minimum average of 70% in lecture
minimum average of 70% on the midterm and final exam.

D- 60% or more of total possible points (minimum average of 70% in lecture
minimum average of 70% on the midterm and final exam.

F- less than 60% of total possible points or less than a 70% average in lecture or less
than 70% average on the midterm and final exam.

Attendance Policy: The college attendance policy, which is available at
http://www.bpcc.edu/catalog/current/academicpolicies.html, allows that “more restrictive
attendance requirements may apply to some specialized classes such as laboratory,
activity, and clinical courses because of the nature of those courses.” The attendance
policy of the Pharmacy Tech program is described in the Pharmacy Technician Clinical
Handbook.

Nondiscrimination Statement

Bossier Parish Community College does not discriminate on the basis of race, color,
national origin, gender, age, religion, qualified disability, marital status, veteran's status,
or sexual orientation in admission to its programs, services, or activities, in access to
them, in treatment of individuals, or in any aspect of its operations. Bossier Parish
Community College does not discriminate in its hiring or employment practices.

Title VI, Section 504, and ADA Coordinator
Sarah Culpepper, Coordinator
Disability Services, D-112
6220 East Texas Street
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Phone: 318-678-6539
Email: sculpepper@bpcc.edu
Hours: 8:00 a.m.-4:30 p.m. Monday - Friday, excluding holidays and weekends.

Equity/Compliance Coordinator
Teri Bashara, Director of Human Resources
Human Resources Office, A-105
6220 East Texas Street
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Phone: 318-678-6056
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Reviewed by TW/ 2-17