

**Bossier Parish Community College
Master Syllabus**

Course Prefix and Number: PHAR 110

Credit Hours: 2

Course Title: Sterile Products

Course Prerequisite: Phar 101, Phar 102, Phar 102L, Phar 104

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:

- A- Describe the pharmacy technician's role, pharmacist role, and other occupations in the healthcare environment. (2.3)
- B- Demonstrate basic knowledge of anatomy, physiology, pharmacology, and medical terminology relevant to the pharmacy technician's role. (2.5)
- C- Perform mathematical calculations essential to the duties of pharmacy technicians in a variety of settings. (2.6)
- D- Practice and adhere to effective infection control procedures. (2.8)
- E- Assist the pharmacist in preparing, storing, and distributing medication products including those requiring special handling and documentation (3.6)
- F- Apply quality assurance practices to pharmaceuticals, durable and non-durable medical equipment, devices, and supplies. (3.11)
- G- Use current technology to ensure the safety and accuracy of medication dispensing. (3.13)
- H- Describe basic concepts related to preparation for sterile and non-sterile compounding (3.15)
- I- Apply patient and medication-safety practices in all aspects of the pharmacy technician's role. (4.2)
- J- Describe and apply state and federal law to processing, handling and dispensing of medications including controlled substances. (5.1)
- K- Describe pharmacy compliance with professional standards and relevant legal, regulatory, formulary, contractual and safety requirements.(5.5)

- L- Describe Occupational Safety and Health Administration (OSHA), National Institute of Occupational Safety and Health (NIOSH), and United States Pharmacopeia (USP) requirements for prevention and treatment of exposure to hazardous substances (e.g., risk assessment, personal protection equipment, eyewash, spill kit). (5.6)

To achieve the learning outcomes, the student will

1. demonstrate an understanding of the need for sterile products (D)
2. describe the role of the pharmacist versus the pharmacy technician in the production of sterile products (A)(J)
3. identify products that must be prepared in sterile environment (B)(E)
4. define parenteral administration (B)(H)
5. describe the requirements for injectable medications(B)(H)
6. describe the routes of parenteral administration (B)(H)
7. distinguish between a solution and a suspension (B)(H)
8. compare the advantages and disadvantages of parenteral administration (H)
9. list possible complications of IV therapy (H)
10. list the types of IV administration (H)
11. differentiate between isotonic, hypertonic, and hypotonic solutions (B)(H)
12. describe the pH scale(B)(H)
13. list commonly used IV solutions (B)(H)
14. list uses of IV solutions (B)
15. compare large and small volume parenterals (H)
16. describe various packaging of IV products (H)
17. describe the process of sterilization (D)(I)
18. describe factors that affect stability of an IV product (H)
19. describe drug incompatibility (B)(H)
20. describe the characteristics of a clean room (H)(D)
21. describe personal protective equipment used in sterile processing (I)(K)
22. describe the role and process of proper handwashing in maintaining aseptic technique (D)(K)
23. describe the use of laminar flow hoods in maintaining aseptic technique (D)(H)(K)
24. describe needles and syringes used in sterile processing (D)(H)
25. describe vials and their use in sterile processing (D)(H)
26. describe ampoules and their use in sterile processing (D)(H)
27. describe storage procedures within a clean room (D)(H)
28. discuss the history and regulation of USP 797 (J)
29. describe the responsibility of compounding personnel (H)
30. compare risk levels identified in USP 797 (I)
31. describe training requirements under USP 797 (J)
32. describe environmental control requirements under USP 797 (H)
33. describe procedures for verifying final product requirements under USP 797 (J)

34. demonstrate the ability to perform calculations involved in the preparation of intravenous admixtures. (C)
35. demonstrate the ability to perform dosage calculations with consideration of variations in patient need. (C)
36. demonstrate the ability to calculate concentrations of solutions or suspensions (C)
37. demonstrate the ability to utilize the allegation method to prepare a solution. (C)
38. perform calculations for the administration of IV therapy (C)
39. define the term cytotoxic, antineoplastic, and chemotherapy (B)
40. describe the proper handling of cytotoxic agents. (I)
41. describe the compounding of cytotoxic drugs (H)
42. describe the correct response to an accidental spill of a cytotoxic agent. (E)(L)
43. describe the use, composition, administration, and compounding of a TPN(G)(H)
44. describe the basic operation of a nuclear pharmacy. (E)
45. describe the basic operation of a home infusion pharmacy (H)
46. describe the characteristics, preparation and safe handling of cytotoxic agents. (E)(H)
47. Describe quality assurance standards as they related to sterile products. (F)

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.bpsc.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 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.

COORDINATOR FOR SECTION 504 AND ADA

Angie Cao, Student and Disability Services Specialist

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Equity/Compliance Coordinator

Teri Bashara, Director of Human Resources

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Bossier City, LA 71111

Phone: 318-678-6056

Hours: 8:00 a.m.-4:30 p.m. Monday - Friday, excluding holidays and weekends.

For assistance with study skills or time management contact the SNAH Student Success Coordinator, Sandra Roberson (B- 145; 678-6148; sroberson@bpcc.edu)

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