Bossier Parish Community College  
Master Syllabus

Course Prefix and Number: PHAR 104  
Credit Hours: 5

Course Title: Pharmacology for Pharmacy Technicians

Course Prerequisites: Concurrent enrollment or successful completion of BLGY 120 or BLGY 224 or BLGY 230

Course Co-requisites: PHAR 102/102L, PHAR 101

Textbooks: Ballington; Pharmacology for Technicians, Ballington; 6th edition

Course Description:  
This course for the pharmacy technician clinical student presents basic pharmacology with emphasis on drug therapy. The course content includes drug laws, terminology, calculations, therapeutic classes of drugs, indications, side effects, contraindications, and generic and trade names.

Learning Outcomes:

At the end of this course, the student will

I. The ability to utilize personal and interpersonal skills and knowledge to the role of the pharmacy technician.
   A. Communicate clearly when speaking and in writing.
   B. Apply interpersonal skills, including negotiation skills, conflict resolution, and teamwork.
   C. Apply critical thinking skills, creativity, and innovation to solve problems.

II. The foundational knowledge and skills necessary to function as a pharmacy technician in various pharmacy settings
   D. Demonstrate understanding of healthcare occupations and the health care delivery system.
   E. Demonstrate understanding of wellness promotion and disease prevention concepts, such as use of health screenings; health practices and environmental factors that impact health; and adverse effects of alcohol, tobacco, and legal and illegal drugs.
   F. Demonstrate knowledge and skills in areas of science relevant to the pharmacy technician’s role, including anatomy/physiology and pharmacology.
   G. Perform mathematical calculations essential to the duties of the pharmacy technicians in a variety of contemporary settings.
   H. Demonstrate understanding of the pharmacy technician’s role in the medication-use process.
To achieve the learning outcomes, the student will

1. recognize the important contributors, events, and resources in the development of pharmacology through the ages. (D)
2. recognize what is meant by pharmacology. (F)
3. explain what receptors are and their function in mechanisms of drugs actions. (F)
4. define what pharmacokinetics means and the principles involved in developing and testing drugs. (A,F)
5. recognize that drug can have beneficial and harmful effects. (C,F)
6. recognize common terms used to describe drug interactions. (F)
7. explain the immunization process. (F)
8. list the components of the prescription (A)
9. list the routes of administration. (F)
10. recognize factors that influence the effects of drugs, particularly in the elderly and pediatric populations. (F)
11. recognize the role of the pharmacy technician in medication safety. (A,F,H)
12. describe the parts of central and peripheral nervous systems, their functions, and their relationship to drugs. (F,H)
13. explain the role of neurotransmitters. (F)
14. recognize different dosage forms and understand how the drug delivery system works. (F,L)
15. explain the concept of general and local anesthesia, and know the function of the agents. (F)
16. describe the different classes of narcotics and the role of the technician in monitoring these drugs. (F,K)
17. define the action of neuromuscular blocking in reducing muscle activity. (F)
18. distinguish between narcotic and nonnarcotic analgesia. (F,K)
19. recognize the different classes of narcotics and the role of the technician in monitoring these drugs. (F,K)
20. describe the various types of agents for migraine headaches. (F)
21. identify the major types of antibiotics by drug class. (F,G)
22. recognize the auxiliary labels used when dispensing major types of antibiotics. (F,K)
23. define therapeutic effects, side effects, indications, and administration routes of major antibiotics. (F,O)
24. use antibiotic and general drug terminology correctly in written and oral communication. (B,D,F)
25. describe the difference between antiviral, antiretroviral, and antifungal by their indications, therapeutic effects, mode of action, side effects, dosages, and administration. (F,K)
26. identify drugs used for HIV and understand their synergism. (E,F)
27. list how and when each drug class above should be used. (A,C,E,H,I,J,O)
28. recognize why some respiratory drugs are prescribed for their side effects. (F,J)
29. differentiate between antidepressant, antipsychotic, and antianxiety agents. (F)
30. recognize the antipsychotic classes, their uses, and their side effects. (F)
31. explain why lithium and other drugs are used in treating bipolar disorders. (F)
32. recognize the antipsychotic drugs and the drugs that prevent their side effects. (F)
33. define anxiety, learn its symptoms, and know the drugs used in its treatment. (F)
34. recognize the course and treatment of panic disorders, insomnia, and alcoholism. (E,F)
35. develop an understanding of the physiologic processes that occur in epilepsy. (F,K)
36. classify seizures and the goals of the therapy. (F)
37. explain which specific drugs are used in different classes of seizures. (F)
38. describe the symptoms of Parkinson’s disease and the drugs used in its treatment. (C,F)
39. list the symptoms and medications used in treating myasthenia gravis, the attention-deficit disorders, ALS, MS, and Alzheimer’s and their treatments. (F,K)
40. describe the different pulmonary diseases. (F)
41. learn the pathophysiology and treatment of asthma. (F)
42. define the goal of asthma treatment. (F)
43. discuss the pathophysiology and treatment of emphysema and chronic bronchitis. (F)
44. describe other diseases related to the lungs. (F)
45. review the reemergence of tuberculosis and of treatment for this disease. (E,F)
46. outline smoking cessation plans and supportive therapy. (E,F)
47. recognize how antitussives, expectorants, decongestants, and antihistamines differ and describe their uses. (E,F,H,K,O)
48. review the gastrointestinal physiology and how is impacts GI disease. (F)
49. list the drug treatment for gastrointestinal disease. (E,F)
50. identify the chemo-receptor trigger zone (CTZ) and its role in nausea. (F)
51. explain which antiemetics act on the CTZ and their mechanism of action. (F)
52. explain the role of fiber in the digestive process. (E,F)
53. define gastroesophageal reflux disease and its ramifications. (E,F)
54. discuss how antidiarrheals work and the agents in this class. (E,F)
55. discuss laxatives, their use, mechanisms of action, and misuse. (E,F)
56. explain the measures to prevent and treat hepatitis and also treat malaria. (F)
57. define obesity and know how to calculate ideal body weight and body mass index (E,F,G)
58. recognize medications used to treat malaria and the side effects of these drugs. (F)
59. describe what the renal system does, its importance and how it works. (A,C,F)
60. difference the parts of the renal system. (A,F)
61. recognize renal disease and the drugs used to treat it. (F)
62. explain the causes and treatments of urinary tract infections. (F)
63. describe the classes of diuretics and how they work. (A,F)
64. describe the cardiovascular system. (C,F)
65. describe the difference between arrhythmias, heart failure, myocardial infarction, angina, and hypertension. (C,F)
66. list the drugs and treatment for each type of heart disease. (C,F)
67. recognize anticoagulant and antiplatelet drugs and know their functions. (F)
68. discuss stroke and the drugs used to treat it. (F)
69. identify the disease state of hyperlipidemia, the drugs used to treat it, and understanding their role in heart disease and stroke. (C,F)
70. define muscle relaxants. (F)
71. identify muscle relaxants and their various mechanisms of action. (F)
72. identify the nonnarcotic analgesics, and describe their uses and mechanism of action. (F)
73. define autoimmune diseases of the body and current drug treatments. (F)
74. identify agents used to treat arthritis, rheumatoid arthritis, and gout; their usage and side effects. (F,K)
75. explain the concept of hormones and how they regulate the body. (F)
76. discuss thyroid replacement therapy. (F)
77. discuss adrenal sex hormones and male dysfunction. (F)
78. describe the concept of hormone replacement therapy. (F)
79. describe the formulation of oral contraceptives. (F,H)
80. recognize the urgent need for drugs used at birth. (F)
81. describe the diseases of the genital systems and how to avoid them. (F)
82. discuss corticosteroids. (F)
83. discuss diabetes and the proper treatment and care of patients. (E,F,G,I,J)
84. explain the applications for growth hormone. (F)
85. describe the skin as an organ. (F)
86. describe the physiology of the skin. (F)
87. list the classes of antiseptics and disinfectants. (E,F)
88. list the topical drugs and the conditions they treat of the skin. (E,F)
89. explain the action of topical corticosteroids and their application. (E,F)
90. describe the ophthalmic and otic agents and their uses. (E,F)
91. discuss recombinant DNA and the process of producing medications in this manner. (F,J)
92. identify colony-stimulating factors and their uses. (F,J)
93. explain the concept of parenteral and enteral nutrition, its purpose, and ingredients. (F,H)
94. recognize herbs, their uses, values and dangers. (F,H)
95. identify supportive therapy and antidote therapy to treat occurrences of poisoning. (F,N)
96. explain the actions on the body of emergency cart medications. (F,N)
97. describe the role of the pharmacy technician in the event of a bioterrorist attack. (D, F,H,K,N,O)
98. Discuss how the body uses vitamins and electrolytes and the drugs containing them. (F,O)
99. identify, pull, and place on identifying plaquards: drugs by class, dosage form and size, and return medications to the proper storage areas related to each chapter covered (B,K,M,N,O)
100. using third party drug coverage lists, identify drugs by dosage form, amount and generic status for that chapter that will be paid for by specified third party company (F,K,L,O)
101. Prepare and present a report on an approved medication (A)

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 70% average on comprehensive midterm and final tests
- minimum 70% average on chapter tests
- overall minimum average of 70% in the course
- completion of an oral and written report on a selected pharmaceutical

Course Grading Scale

A- 90% or more of total possible points and a minimum average of 70% on the comprehensive midterm and final tests and a minimum average of 70% on chapter tests
B- 80% or more of total possible points and a minimum average of 70% on the comprehensive midterm and final tests and a minimum average of 70% on chapter tests

C- 70% or more of total possible points and a minimum average of 70% on the comprehensive midterm and final tests and a minimum average of 70% on chapter tests

D- 60% or more of total possible points and a minimum average of 70% on the comprehensive midterm and final tests and a minimum average of 70% on chapter tests

F- less than 60% of the total possible points or less than 70% average on the comprehensive midterm and final tests or less than 70% average on chapter tests

Attendance Policy: The college attendance policy is available at http://www.bpcc.edu/catalog/current/academicpolicies.html

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.

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Equity/Compliance Coordinator
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Reviewed by T. Wynn/ February 14, 2017