

PROGRAM: Pharmacy Technician Bridging Education Program

COURSE NAME: Pharmacology

COURSE DURATION: 33 hours

PRIOR LEARNING ASSESSMENT AND RECOGNITION:

CH Exam Portfolio N/A

I. COURSE DESCRIPTION

This course provides a practical, applied approach to pharmacology. Through a variety of learning tools such as assignments, quizzes, case studies and group work, the student will enhance his/her ability to practice competently and contribute to a safe patient care setting. Participants will gain basic knowledge related to the pharmacological uses of drugs within a variety of commonly encountered medical conditions.

II. COURSE OVERVIEW

| Lesson Number | Topic | Time in Hours |
|---------------|------------------------------------|---------------|
| 1 | Introduction to Pharmacology | 1 hour |
| 2 | Mental Health (Depression/Anxiety) | 2 hours |
| 3 | Hypertension | 3 hours |
| 4 | Dyslipidemia/MI/Stroke/ Angina | 3 hours |
| 5 | Asthma/COPD/Anaphylaxis | 2 hours |
| 6 | Smoking Cessation | 1 hour |
| 7 | Diabetes | 3 hours |
| | Midterm Test | 1.5 hour |
| 8 | Gastrointestinal | 1.5 hours |
| 9 | Bacterial Infections | 3 hours |
| 10 | Viral Infections and Cancer | 2 hours |
| 11 | Fungal Infections | 1 hour |
| 12 | Pain | 1.5 hours |
| 13 | Men's Health | 1.5 hours |
| 14 | Women's Health | 2 hours |
| | Exam Review | 1 hour |
| | Final Exam | 3 hours |

III. VOCATIONAL LEARNING OUTCOMES

On completion of this course, participants will have reliably demonstrated the ability to:

1.0 Apply basic principles of pharmacology essential to ensure safe dispensing practices

Learning Elements

- 1.1 Describe the elements of pharmacology, therapeutics, anatomy and physiology as appropriate for the following:
 - a. Mental Health – Depression and Anxiety Disorders
 - b. Cardiovascular disease (hypertension, angina, dyslipidemia, myocardial infarction, stroke)
 - c. Asthma/COPD/Anaphylaxis
 - d. Smoking Cessation
 - e. Diabetes
 - f. Gastrointestinal disease
 - g. Bacterial Infections
 - h. Pain
 - i. Viral Infections and Cancer
 - j. Fungal Infections
 - k. Men's health (BPH and erectile dysfunction)
 - l. Women's health (contraception, menopause and menstrual disorders)
- 1.2 Define medical terms, nomenclature and acronyms used in pharmacology.
- 1.3 Identify trade and generic names, dosage forms, doses, quantities and directions for use of prescription, non-prescription and herbal medications for treating commonly encountered medical conditions.
- 1.4 Correlate names, pharmacological classifications and therapeutic uses of medications with a variety of commonly encountered medical conditions.
- 1.5 Identify adverse effects and drug interactions related to the pharmacological use of medications for treating commonly encountered medical conditions.
- 1.6 Identify appropriate dosage forms, strengths and routes of administration for specific medications.
- 1.7 Apply knowledge of pharmacology to assist in the selection of appropriate patient education materials (auxiliary labels, patient information pamphlets etc).
- 1.8 Use paper-based, electronic and other resources to locate and select information relating to the proper use of medications.

2.0 Collaborate with the pharmacist and members of the healthcare team.

Learning Elements

- 2.1 Identify and report changes in the drug, dosage, quantity, dosage form, directions, the patient profile or health record, and where provided, the diagnosis or medical condition to the pharmacist or appropriate healthcare team member.
- 2.2 Identify and report therapeutic issues such as drug allergies, drug or disease interactions, patient non-compliance, inappropriate uses or other discrepancies to the pharmacist.
- 2.3 Use critical thinking and problem solving to assist in the management of patient therapy.
- 2.4 Document actions in an appropriate manner.

3.0 Act within the scope of practice for pharmacy technicians when providing non-pharmacological products or services.

Learning Elements

- 3.1 Demonstrate the use of point of care home monitoring products such as peak flow meters, blood pressure machines, glucose meters and pregnancy tests when appropriate for the medical condition of the patient.
- 3.2 Choose the appropriate drug delivery device, supplies or medical equipment appropriate for the needs of the patient and his/her medical condition.

IV. ASSESSMENT OF LEARNING

| Assessment Method | % of Final Grade | Associated Outcome(s) | Due |
|--|-----------------------------|------------------------------|------------------------------|
| Mid-Term Test | 30% | 1.1 – 2.4 (Lessons 1 – 7) | Week 6 |
| Pharmacology Assignment | 15% | 1.1-1.8 | Due Date – week 8 |
| Final Exam | 35% | 1.1-3.2 | Final Class |
| Take Home Quizzes (10 Quizzes in total) score all) | 10% - Quizzes | 1.1 - 3.2 | Week 2, 3, 5, 7, 8, 9, 10 |
| Completion of 5 mandatory CE lessons | 10% | 1.1 – 3.2 | All 5 due by week 10 |
| Demonstration of devices (8 in total) | Requirements Met/Not Met | 3.1,3.2 | Week 9 |

Important Notes:

1. All of the following “Tech Talks” (TTs) must be completed:
 1. *Dyslipidemia: Screening, management and the role of the pharmacy technician*
 2. *Smoking cessation: helping your patients kick the habit*
 3. *Stroke and Hypertension*
 4. *Glucose meters, insulin pens and lancing devices: helping patients select appropriate tools*
 5. *Integrating immunization into pharmacy practice*

These resources are provided to you as part of your course materials and you will submit your response to the questions directly to your instructor for marking. Four of the five readings are tied directly to course lessons and are provided with those lesson materials. The reading on immunization applies generally to pharmacy practice and has been provided as a reading resource to assist with completion of Assignment # 1 (assigned in Lesson 07). You are expected to manage your time effectively to ensure that you have completed all five readings by the due date identified. These are intended as individual assignments; collaboration between students is not permitted.

2. As part of the device demonstration referenced above as a course assessment to be completed in the workplace, students must complete a demonstration of all eight devices identified in the checklist. Failure to submit this assignment or submission of an assignment that is incomplete will result in a grade of “zero” for the course.
3. No text, study sheets or other electronic or hard copy resource materials will be allowed for the final exam.
4. A set exam has been provided. Three hours will be allotted for the exam.
5. Cheating and/or plagiarism will not be tolerated. It should be noted that sharing information or seeking advance notice from colleagues about the content and format of tests, examinations or assignments is a clear example of academic dishonesty. Instances of academic dishonesty are subject to the policies and penalties established by the college delivering this course.

Grading:

The student must attain an overall average of 70%, with a passing grade of at least 70% on the final exam, to successfully pass Pharmacology. No supplemental examinations will be provided. This practice is consistent across the Pharmacy Technician Bridging Program and overrides individual college policies regarding provision of supplemental examinations.

Attendance is mandatory. Frequent and/or unjustified absence from class may result in a request to withdraw from the course.

Assignments must be submitted directly to the instructor and are due at the beginning of class on the scheduled due date. Late submission of assignments or papers, without the professor’s consent will result in 20% per day reduction in the grade assigned. After five days, including weekends and holidays, the assignment or paper will receive a mark of zero. Note: Personal

illness or family emergency (sick child, death in the family, etc.) is the only reason for granting an extension for the submission of assignments. The request for an extension must be submitted to the instructor within 24 hours of failure to submit the required assignment. These requests must be accompanied by documentation from an appropriate source (e.g. physician, funeral director, etc.)

All graded assessments (including those with a Requirements Met/Not Met designation) must be submitted to complete the course.

Note to Instructor: It is important that students understand how assignments and tests are evaluated before they begin working on them. Please make certain to discuss the marking scheme and expectations for assignment/tests as they are assigned.

V. REQUIRED TEXTS AND OTHER LEARNING MATERIALS

1. Students must have Internet access.
2. The student must have access to the required references for a pharmacy as listed by the pharmacy regulatory authority in their jurisdiction.
3. Drug Benefit Formulary/ Drug Index
4. Moscou K, Snipe K. *Pharmacology for Pharmacy Technicians*, 2nd edition, 2013

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Note: To derive maximum benefit from course presentations, discussions, etc., it is important that students diligently complete the Pre-Readings for each lesson identified on the Course Schedule.