

## COURSE OUTLINE

**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

Unit Number	Unit Name	Time in Hours
I	Introduction to Pharmacology	1 hours
II	Cardiovascular (hypertension/angina)	3 hours
III	Diabetes	4 hours
IV	Asthma/Anaphylaxis/Gastrointestinal	4 hours
V	Depression/Pain	3 hours
VI	Women's Health (contraception, menopause and menstrual disorders)	3 hours
VII	Men's Health (prostate disease and erectile dysfunction)	1.5 hours
VIII	Infectious diseases (bacteria/viruses/fungi)	4.5 hours
IX	Cancer	3 hours
X	Epilepsy/Thyroid	3 hours
XI	Exam Preparation and 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. Cardiovascular disease (hypertension, angina)
    - b. Diabetes
    - c. Asthma
    - d. Anaphylaxis
    - e. Gastrointestinal disease
    - f. Depression
    - g. Pain
    - h. Women's health (contraception, menopause and menstrual disorders)
    - i. Men's health (prostate disease and erectile dysfunction)
    - j. Infectious diseases (bacteria, viruses, fungi)
    - k. Cancer
    - l. Epilepsy
    - m. Thyroid disease
  - 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**

<b>Assessment Method</b>	<b>% of Final Grade</b>	<b>Associated Outcome(s)</b>	<b>Due</b>
Take Home Quizzes (11 Take-home Quizzes – score all)	10% - Quizzes	1.1 - 3.2	To be determined by instructor (pre-test or post- test)
Completion of 8 CE lessons: 7 Tech Talk and 1 CE Lesson from another source * see note	35%	1.1 – 3.2	To be determined by instructor
Glossary Assignment	5%	1.1	Upon completion of Unit 10
Demonstration of inhalation device	5%	3.1,3.2	Upon completion of Unit 4
Pharmacology Assignment	15%	1.1-1.8	Due date set by instructor
Final Exam	30%	1.1-3.2	Final Class

**Note:**

\* All of the following 7 “Tech Talks”(TTs) must be completed:

- 1) TT Hypertension in Lesson # 2 (001-1007 Tech)
- 2) TT Hyper and Hypoglycemia in Lesson # 4 (NA-TT 0008)
- 3) TT Asthma in Lesson # 6 (1065-2011-220-I-T)
- 4) TT OTC Heartburn and GERD in Lesson # 8 (NA –TT0053)
- 5) Over-the Counter Non-Prescription Management of Acute Headache – Lesson 10 (NA-TT0055)
- 6) TT Recycling the Cycle – Extended and Continuous Use of Combined Hormonal Contraceptives – Lesson 11 (005-0408)
- 7) TT Menopause in Lesson # 12 (NA-TT0004)

**Note: Most of the Tech Talk assignments referenced in the lessons are now accessed through the Canadian Healthcare Network: [www.CanadianHealthcareNetwork.ca](http://www.CanadianHealthcareNetwork.ca). You must register to use this site and then search for the specific titles. (See Lesson 2, Assignment # 2 for more information on using this site.)**

In addition, students must complete one of the following CE lessons

- 1) “Diabetes Foot Care” - <http://www.canadianhealthcarenetwork.ca> (1065-2010-012-I-P)
- 2) Blood Glucose Monitoring: Determining the Accuracy of Meters (Canadian Healthcare Network) - Lesson # 5 (238-0205T)
- 3) Chronic Obstructive Pulmonary Disease (COPD) (Canadian Healthcare Network) – Lesson # 6 (NA-TT0040)
- 4) Vaginal Infections - <http://www.canadianhealthcarenetwork.ca> – Lesson # 12, 16 (1065-2010-086-I-T)
- 5) Infectious Diseases and the Pharmacy Technician (Canadian Healthcare Network) – Lesson 15 (NA-TT0011)
- 6) “Vitamin D: How Much Do We Really Need” - <http://www.canadianhealthcarenetwork.ca>
- 7) OTCs and Common Cold in Lesson # 15 (1065-2010-130-I-T)
- 8) “Prostate Cancer” <http://www.canadianhealthcarenetwork.ca> - Lesson # 17 (1065-2010-130-I-T)
- 9) “Update on Non-Malignant Thyroid Disorders ” - <http://www.canadianhealthcarenetwork.ca> - Lesson # 19 (906-0409)

**Important Notes:**

- 1) **No text, study sheets or other electronic or hard copy resource materials will be allowed for the final exam.**
- 2) **A set exam has been provided. Three hours will be allotted for the exam.**
- 3) **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

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. After five days, including weekends and holidays, the assignment or paper will receive a mark of zero. All assignments 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 provincial College of Pharmacists:

### **Alberta:**

Reference the *Standards for the Operation of Licensed Pharmacies – standards # 4.15 – 4.19* on the ACP web site: <http://pharmacists.ab.ca/>

### **British Columbia:**

A complete listing can be found at:

[http://www.bcpharmacists.org/library/E-Registration\\_Licensure/E-3\\_Pharmacy/5033-Guide-CommunityPcyLicensure\\_AppF.pdf](http://www.bcpharmacists.org/library/E-Registration_Licensure/E-3_Pharmacy/5033-Guide-CommunityPcyLicensure_AppF.pdf)

### **Ontario:**

[http://www.ocpinfo.com/client/ocp/OCPHome.nsf/object/Library+Guide/\\$file/Library+Guide.pdf](http://www.ocpinfo.com/client/ocp/OCPHome.nsf/object/Library+Guide/$file/Library+Guide.pdf)

3. Drug Benefit Formulary/Comparative Drug Index –

**Alberta:** <https://www.ab.bluecross.ca/dbl/publications.html>

Schedules: <https://pharmacists.ab.ca/PharmacistResources/ABDrugSchedules.aspx>

### **British Columbia:**

PharmaCare Program: <http://www.health.gov.bc.ca/pharmacare>

**Ontario:**

[www.health.gov.on.ca/english/providers/program/drugs/odbf\\_iformulary.html](http://www.health.gov.on.ca/english/providers/program/drugs/odbf_iformulary.html)

4. Moscou K, Snipe K. *Pharmacology for Pharmacy Technicians* 2009  
ISBN: 978-0-323-04720-3

**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.**