

COURSE OUTLINE

PROGRAM: National Pharmacy Technician Bridging Education Program

COURSE NAME: Professional Practice – Pharmacy Technician Bridging

COURSE DURATION: 39 hours

PRIOR LEARNING ASSESSMENT AND RECOGNITION:

CH Exam _____ Portfolio _____ N/A X

I. COURSE DESCRIPTION

Students will be prepared for entry to practice in four main areas of focus: ethics and professionalism, legal requirements, scope of practice, and communication skills. Through a variety of learning tools the student will enhance his/her ability to practice competently within the professional practice framework.

II. COURSE OVERVIEW

Unit Number	Unit Name	Time in Hours
I	Ethics and Professionalism	15
II	Legislation	9
III	Scope of Practice	6
IV	Communications	6
	Final Exam	3

III. VOCATIONAL LEARNING OUTCOMES

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

1.0 Identify and adhere to ethical principles and standards and professional responsibility appropriate for a regulated healthcare professional.

Elements

- 1.1 Recognize and commit to the professional practice requirements, obligations, values and standards outlined in Code of Ethics and Standards of Practice for regulated pharmacy technicians.
- 1.2 Differentiate law and ethics and the requirements of personal and professional integrity.
- 1.3 Apply critical thinking skills and ethical decision-making to resolve challenges typically encountered in pharmacy practice.

- 1.4 Identify and commit to strategies for maintaining professional competence including self-evaluation and reflection, professional development and lifelong learning.
- 1.5 Define and give examples of professional misconduct and incompetence.
- 1.6 Determine suitable action within “duty to report” requirements and the investigative and disciplinary process established by the pharmacy regulatory authority.
- 1.7 Discuss the accountability and responsibility to patients required in the role of the pharmacy technician with emphasis on:
 - advocating on behalf of the patient,
 - respecting patients’ rights in making their own choices and
 - considering patient-specific circumstances and needs.
- 1.8 Identify strategies for developing and maintaining professional relationships with patients and health care professionals that meet patient health care needs and contribute to positive outcomes.
- 1.9 Demonstrate personal and professional integrity by:
 - resolving potential/actual unsafe, illegal, unethical or unprofessional actions or situations.
 - accepting responsibility and accountability for actions and decisions.
 - showing sensitivity to and respect for the patient’s dignity, values and diversity.
 - maintaining appropriate professional boundaries.
 - practising within professional and personal limits of knowledge, skills, and abilities.

2.0 Comply with legislative and other regulatory requirements relevant to pharmacy practice.

Elements

- 2.1 Differentiate the role in pharmacy practice of federal agencies and pharmacy regulatory authorities.
- 2.2 Demonstrate understanding of the application of the National Drug Schedules in pharmacy practice.
- 2.3 Discuss the impact of the *Canada Health Act* on pharmacy practice, and the role of Health Canada.
- 2.4 Identify the various prescription, purchasing and record-keeping requirements for drugs addressed in federal legislation including the *Food and Drugs Act* (and Regulations) and the *Controlled Drugs and Substances Act* (and Regulations).
- 2.5 Discuss the impact on pharmacy practice of legislation related to patient privacy, business and taxes, environmental and disposal issues and workplace safety.
- 2.6 Describe the specific legislation that governs regulated health professionals and the practice of pharmacy in their province or territory.

3.0 Act within the scope of practice for pharmacy technicians, in compliance with legislation and established policies and procedures

Elements

- 3.1 Differentiate the role of the pharmacy technician and the pharmacist, and identify issues that require referral to the pharmacist.
- 3.2 Discuss the expanded scope of practice for regulated pharmacy technicians as articulated in the **Model Standards of Practice for Pharmacy Technicians** with a focus on expertise in drug distribution; collaboration with the pharmacist and other healthcare professionals in various aspects of pharmacy practice; safety/quality of prescription product preparation and release; and professionalism/ethics.
- 3.3 Discuss the importance of prescription authentication and identify strategies for authenticating written, verbal, faxed and digital prescriptions to ensure completeness, clarity and compliance with legal requirements.
- 3.4 Identify unusual patterns of drug distribution with emphasis on diversion, misuse and fluctuation and strategies for minimizing them.
- 3.5 Identify various patient non-compliance, legal and therapeutic issues and other discrepancies that must be reported to the pharmacist to maintain patient safety and care.
- 3.6 Define medication reconciliation and describe requirements and best practices for completing a medication history.
- 3.7 Discuss challenges associated with receiving verbal prescriptions and prescription transfers.
- 3.8 Describe pharmacy technician responsibilities in the collection, use and disclosure of patient health information, with particular focus on health information custodians, circle of care and consent.

4.0 Communicate effectively with pharmacy stakeholders including members of the pharmacy team, patients, patients' agents, and healthcare providers within the scope of the profession

Elements

- 4.1 Demonstrate appropriate verbal, non-verbal communication and listening skills:
 - Recognize facilitators of and challenges to communication.
 - Use appropriate communication techniques.
 - Use appropriate language/terminology.
 - Use communication styles appropriate to purpose, setting, situation and patient needs.
- 4.2 Discuss strategies for managing conflict in a professional manner.
- 4.3 Discuss the importance of sensitivity, respect, empathy and confidentiality when communicating with patients, patients' agents and healthcare providers.

- 4.4 Identify the parameters of the pharmacy technician’s actions in response to patients’ questions and requests.
- 4.5 Effectively refer questions and concerns that are outside the pharmacy technician scope of practice and/or personal competency to the pharmacist or other healthcare colleagues.
- 4.6 Discuss the impact of technology on pharmacy practice.
- 4.7 Outline best practices for maintaining confidentiality of patient information and ensuring appropriate communication protocols within the pharmacy and in interactions with patients, patients’ agents, and healthcare providers.

IV. ASSESSMENT OF LEARNING

Assessment Method	% of Final Grade	Associated Outcome(s)	Week Due
Weekly Ethics Logs and Summary	10%	L.O 1	Week 6
Ethical Decision-Making Assignment	10%	L.O 1	Week 4
Learning Record Assignment	7.5%	L.O 1	Week 12
Pharmacy Resources Assignment	7.5%	L.O 2	Week 8
CDSA Assignment	15%	L. O. 2	Week 10
Unit Quizzes	15%	L.O. 1, 2, 3	Weeks 5, 9 and 11
Final Exam*	35%	ALL	Week 13
Tech Talk Assignments	To be graded as Requirements Met/Not Met	L.O. 4.0	Week 12

Important Notes regarding Course Evaluation:

- 1) **Only authorized resources are allowed during the final examination.**
- 2) **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 educational institution delivering this course.**

Grading:

To successfully pass Professional Practice, the student must attain an overall average of 70% with a mark of at least 70% in the Final Exam. All graded assessment items must be submitted to complete the course. 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. After five days, including weekends and holidays, the assignment or paper will receive a mark of zero. All graded assessments (including those that carry 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.

Additional Project Requirement

Through independent research, students are required to investigate and develop understanding of the specific provincial/territorial legislation and regulations that influence how pharmacies operate and how pharmacy professionals practice. As a condition of registration, students may be expected to demonstrate their knowledge and understanding of this legislation and regulatory structure independently of the final examination included as part of the Professional Practice course. A separate jurisprudence examination may be developed, administered and evaluated by their pharmacy regulatory authority.

This assignment is intended as a self-study project. It will not be submitted to the instructor, and is not part of the evaluation component of the Professional Practice course.

V. REQUIRED TEXTS AND OTHER LEARNING MATERIALS

Students must have Internet access; various websites are identified at intervals throughout the course.

COURSE OUTLINE

PROGRAM: Pharmacy Technician Bridging Education Program

COURSE NAME: Product Preparation

COURSE DURATION: 33 hours

PRIOR LEARNING ASSESSMENT AND RECOGNITION:

CH Exam X

Portfolio _____

N/A _____

I. COURSE DESCRIPTION

This course addresses the theoretical knowledge and practical skills essential for safe and accurate preparation of sterile and non-sterile pharmaceutical products. For non-sterile preparation, students will focus on compounding practices for various internal and external preparations and specialty dosage forms, equipment and tools, professional guidelines, standards and legislation, pharmaceutical calculations, and documentation requirements. For sterile product preparation, areas of emphasis include infection control, aseptic technique, parenteral dosage forms, accurate calculations, appropriate use of equipment, and quality control. Best practices associated with the preparation of TPN and antineoplastics are also covered.

II. COURSE OVERVIEW

Unit Number	Unit Name	Time in Hours
I	Extemporaneous Compounding	10 hours
II	Extemporaneous Specialty	2 hours
III	Sterile Product Preparation	15 hours
IV	Sterile Specialty Products (antineoplastics)	6 hours

III. VOCATIONAL LEARNING OUTCOMES

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

- 1.0 Safely and accurately compound a non-sterile mixture, according to a predetermined master formula sheet, with emphasis on efficiency, good compounding practices and Workplace Hazardous Materials Information Systems (WHMIS) guidelines.**

Learning Elements:

- 1.1 Calculate quantities needed to compound a product, using various mathematical operations and master formula sheets.
- 1.2 Solve problems relating to pharmaceutical calculations – dilutions, dosage calculations and conversions using common fractions, decimal fractions, ratios, proportions and percentages.
- 1.3 Detect errors when verifying calculations.
- 1.4 Accurately interpret terminology and compounding directions used in written procedures and master formula sheets.
- 1.5 Identify the appropriate purpose of ingredients.
- 1.6 Discuss the use of pharmaceutical ingredients to enhance form, palatability or appearance and patient compliance.
- 1.7 Select and use credible reference materials and online resources effectively, including USP Chapter 797.
- 1.8 Discuss the selection of appropriate equipment and supplies for non-sterile compounding.
- 1.9 Discuss procedures for accurately weighing and measuring ingredients.
- 1.10 Discuss the components of a checklist appropriate for final release of a finished product.
- 1.11 Describe appropriate techniques for compounding extemporaneous product(s) accurately.
- 1.12 Demonstrate correct packaging and labeling of the finished product, including determination of expiry dates, stability and storage guidelines.
- 1.13 Complete a Master Formula sheet.
- 2.0 Outline special procedures and guidelines for compounding specialty extemporaneous products, including specialty dosage forms and products containing narcotics.**

Learning Elements:

- 2.1 Summarize legislative requirements and other guidelines that govern the use of narcotics and controlled drugs in extemporaneous compounding.
- 2.2 Describe special procedures that need to be taken when compounding extemporaneous mixtures containing narcotics.
- 2.3 Outline the advantages and disadvantages of the following “specialty” dosage forms: patch, troche, suppository, lollipop, lozenge, capsule, tincture, paste, spray, powder.
- 2.4 Complete pharmaceutical calculations required for the preparation of various prescriptions for specialty products.

- 3.0 Discuss procedures for safe and accurate preparation of sterile IV admixture(s) in a Laminar Air Flow Hood (LAFH) with emphasis on aseptic technique and the standards established by the Canadian Society of Hospital Pharmacists (CSHP), and the USP Chapter 797 standard.**

Learning Elements

- 3.1 Define aseptic technique and key principles essential for ensuring a sterile product.
 - 3.2 Identify common potential contaminants (microbial and physical) of sterile products.
 - 3.3 Describe routes of parenteral administration.
 - 3.4 Calculate quantities needed to prepare various IV admixtures, using appropriate mathematical operations.
 - 3.5 Solve mathematical problems related to pharmaceutical calculations including dilutions, percentages, conversions, alligations, IV flow rates and daily volumes.
 - 3.6 Discuss procedures for proper hand washing, gloving and gowning.
 - 3.7 Describe the operations of the horizontal and vertical Laminar Air Flow Hood, and appropriate cleaning procedures.
 - 3.8 Outline best practices for setup of materials and supplies to maintain a sterile environment and identify sources of contamination.
 - 3.9 Identify critical sites of sterile materials.
 - 3.10 Demonstrate appropriate aseptic technique for the handling of needles, and syringes, withdrawal from vials and glass ampoules, injection into a minibag and reconstitution.
 - 3.11 Discuss selection of correctly sized packaging and labeling procedures for a syringe, mini bag and large volume parenterals.
- 4.0 Discuss procedures for safe and accurate preparation of TPN in a Laminar Air Flow Hood (LAFH) with emphasis on aseptic technique and compliance with the standards established by the Canadian Society of Hospital Pharmacists (CSHP), and USP Chapter 797.**

Learning Elements

- 4.1 Discuss the definition, purpose and types of TPN (Total Parenteral Nutrition).
- 4.2 Describe the routes of administration.
- 4.3 Discuss the compatibility of specific additives.
- 4.4 Accurately complete calculations and conversions to determine volumes of medications and diluents.
- 4.5 Outline criteria for selecting the correct TPN container.
- 4.7 Explain procedures required for the proper setup of materials and supplies while maintaining a sterile environment.
- 4.8 Determine the correct sequencing of specific additives to the TPN bag, emphasizing aseptic techniques to be practiced with this step.
- 4.9 Outline requirements for a TPN worksheet and label, applying knowledge of expiry dates, stability and storage guidelines.

- 5.0 Outline procedures for safe and accurate preparation of chemotherapy medications in a Biological Safety Cabinet, with emphasis on aseptic technique and compliance with the standards established by the Canadian Society of Hospital Pharmacists (CSHP), the provincial College of Pharmacists, and USP Chapter 797.**

Learning Elements

- 5.1 Discuss hazards involved in handling and preparing chemotherapy medications
- 5.2 Discuss appropriate procedures for disposal of cytotoxic supplies, materials and medications and the cleanup of cytotoxic spills.
- 5.3 Demonstrate the operation of the biological safety cabinet and appropriate cleaning procedures.
- 5.4 Discuss gloving and gowning procedures and other precautionary measures associated with appropriate use of the equipment.
- 5.5 Describe the specialized techniques required in the preparation of chemotherapy doses.
- 5.6 Discuss procedures for appropriate packaging, labeling and delivery of chemotherapy doses.

NOTE: It is not within the scope of the Pharmacy Technician Bridging Program to ensure that course participants are fully competent in sterile and non-sterile product preparation. As a result, the opportunities for practical, hands-on practice are limited. The goal is to refresh your understanding of the principles and best practices involved in sterile and non-sterile preparation and provide opportunity for basic practice either in the classroom or at home. If your skills are deficient, you need to look for ways to enhance your performance of these techniques. It is your responsibility as a self-regulated professional to avoid assuming responsibility on the job for tasks for which you are not fully prepared.

IV. ASSESSMENT OF LEARNING

Assessment Method	% of Final Grade	Associated Outcome(s)	Week Due
Test # 1	20%	LO 1	Week 4
Methadone Assignment	10%	LO 2	Week 5
Test # 2	25%	LO 2, 3	Week 8
Quizzes (3)	10%	LO 1, 2, 3	Weeks 2, 6, 7
Final Exam	35%	LO 1, 2, 3, 4, 5	Week 11

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.

Important Notes

- 1) In addition, to successfully complete the course, students are required to submit two compounding assignments completed in the work place. Week 10 is the deadline for submission of these assignments. Failure to submit these assignments will result in a grade of zero for the course. These assignments will be assessed using a Requirements Met/Not Met designation.

- 2) 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 a 20% per day reduction. After 5 days, including weekends and holidays, the assignment or paper will receive a grade of zero. All graded assessments must be submitted to complete the course.
- 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:

An overall average of 70%, with a passing grade of at least 70% on the final exam is required for successful completion of the course. 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.

V. REQUIRED TEXTS AND OTHER LEARNING MATERIALS

McCartney, Lisa **Sterile Compounding and Aseptic Technique Concepts, Training and Assessment for Pharmacy Technicians.** Paradigm Publishing, Inc. St. Paul, MN 2012-03-28 2012, ISBN 978-0-76384-083-9 (Text and DVD)

Purchase of a materials kit is required.

A four-function calculator. (Students will be permitted to use a non-scientific, non-programmable calculator during tests and the final examination.)

Note: Chapter 5 (pp. 115 -141) of the Paradigm text referenced above addresses calculations for sterile compounding and two math review activities are included in the course materials. For additional practice with pharmaceutical calculations, students are encouraged to access any of the following web sites:

http://wps.prenhall.com/chet_olsen_medicaldosage_8

<http://www.alyson.org/dimensional/daexamples.htm>

<http://www.delta.edu/tlc/TLCStudySupport/mathforscience/NursingMath/healthmath.html>

<http://www.unc.edu/~bangel/quiz/testiv.htm>

<http://www.unc.edu/~bangel/quiz/testflu.htm>

http://www.quia.com/servlets/quia.activities.common.ActivityPlayer?AP_rand=1259005221&AP_activityType=3&AP_urlId=382242&AP_continuePlay=true382242

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. After five days, including weekends and holidays,

the assignment or paper will receive a mark of zero. 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

ISBN: 978-0-323-08497-0

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.

COURSE OUTLINE

PROGRAM: National Pharmacy Technician Bridging Education Program

COURSE NAME: Management of Drug Distribution Systems

COURSE DURATION: 39 hrs.

PRIOR LEARNING ASSESSMENT AND RECOGNITION:

CH Exam ✓ Portfolio N/A

I. COURSE DESCRIPTION

This course will examine various drug distribution systems in pharmacy practice, and prepare learners to effectively manage operations in different practice settings to ensure safe and effective drug supply and distribution. Learners will explore distributive functions in institutional settings, as well as common drug plans and their formularies, adjudication challenges, inventory management elements and common business practices. Accurate product release within the parameters of the pharmacy technician role receives special emphasis.

II. COURSE OVERVIEW

Unit Number	Unit Name	Time in Hours
I	Patient Safety and Error Prevention	3
II	Hospital Pharmacy Dispensing	15
III	Community Pharmacy Dispensing	12
IV	Managing Inventory and Workflow	6
	Final Exam	3

III. VOCATIONAL LEARNING OUTCOMES

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

1. Collaborate in developing, implementing, and evaluating quality assurance and risk management policies, procedures, and activities.

Learning Elements

- 1.1 Identify and respond to actual or potential problems within the drug distribution system.
- 1.2 Evaluate initiatives used to improve the quality and safety of medication use within the practice environment and the health care system.
- 1.3 Participate in the development, implementation, and evaluation of quality indicators.

2. Collaborate in the management of systems for drug distribution to ensure patient safety.

Learning Elements

- 2.1 Identify various drug distribution systems available in pharmacy practice including unit dose, ward stock, and automated distribution.
- 2.2 Identify and respond to individual patient needs while ensuring the safety, accuracy, quality, integrity, and timeliness of the product while following established drug distribution policies and procedures.
- 2.3 Describe and contribute to the implementation and maintenance of safe and effective systems of drug supply and distribution.

3. Promote safe and effective drug distribution by releasing and distributing products in a manner that ensures patient safety.

Learning Elements

- 3.1 Check the accuracy and completeness of pharmaceutical products prepared for release including those prepared through independent double check procedures.
- 3.2 Confirm that the patients in the community pharmacy have been provided consultation with the pharmacist.
- 3.3 Release/distribute the checked pharmaceutical product to the right patient, health care personnel, facility, or authorized person.
- 3.4 Document all aspects of drug distribution activities.

4. Promote safe and effective drug distribution by packaging products to maintain integrity.

Learning Elements

- 4.1 Identify various methods of packaging of products based on quantity, stability, safety, legislative requirements, and patient requirements.
- 4.2 Recognize and adhere to protocols surrounding bar codes, batch numbers, expiry, sterility, and auxiliary and safety labels in compliance with legislative requirements.
- 4.3 Complete accurate, legible records and documentation that meet standards, policies and procedures.

5. Apply the fundamental concepts of business practice and inventory management appropriate for various pharmacy practice environments.

Learning Elements

- 5.1 Differentiate various types of pharmacies
- 5.2 Identify types of services that attract business in a community pharmacy
- 5.3 Identify and compare various inventory management systems used in pharmacy practice.
- 5.4 Differentiate various pharmaceutical suppliers ensuring inventory requirements are sufficient for patient safety and efficient operations.
- 5.5 Describe the process of preparing and placing orders for stock and supplies from licensed pharmaceutical suppliers in compliance with relevant legislation.
- 5.6 Identify strategies for resolving discrepancies found when receiving stock and supplies from suppliers.

5.7 Ensure appropriate storage of medication in compliance with legislative requirements, policies and procedures.

6. Manage workflow within the pharmacy technician practice environment integrating organizational principles and skills and knowledge of prescription claims processing.

Learning Elements

6.1 Manage workflow by integrating effective prioritization, organizational, and time management skills.

6.2 Discuss and apply knowledge of the scope, limitations, and expectations of publicly funded and private insurance plan coverage

6.3 Identify strategies for resolving billing and adjudication issues encountered in the processing of prescriptions.

IV. ASSESSMENT OF LEARNING

Assessment Method	% of Final Grade	Associated Outcome(s)	Week Due
Traditional Dispensing Lab	10%	Outcome 3	4
Unit Dose Dispensing Lab	10%	Outcome 3	6
Community Pharmacy Dispensing Lab	10%	Outcome 3	9
Midterm Test	20%	Outcomes 1, 2, 3, 4	8
Assignment - Safety	10%	Outcome 1	5
Assignment – Publicly Funded Drug Benefits	10%	Outcome 6	10
Final Exam	30%	All Outcomes	13
Critical Reflection Activities* (3 in Total - Completed weeks 5, 7 and 10)	Requirements Met/Not Met	Outcome 3	10

An overall average of 70% with a passing grade of at least 70% on the final exam is required for successful completion of the course. All graded assessment items must be submitted to complete the course. **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.

Important Notes:

- As the above chart indicates, 30% of the final mark is based on completion of virtual laboratory activities/assignments focused on ‘independent double check’ procedures in three drug distribution systems – community pharmacy; traditional drug distribution and unit dose/cassette distribution. Some course participants will not have had experience in all three. Success in the lab activities included in lessons 4, 6 and 9 requires a good understanding of product release processes in community, hospital and long-term care pharmacy facilities. Students who have worked exclusively in a community pharmacy will discover that addressing the Independent Double Check processes required in

traditional drug distribution systems and unit dose distribution systems is easier if they have actually seen these distribution systems in action. Similarly, technicians who have worked exclusively in a hospital setting will benefit from first-hand knowledge of product release in a community pharmacy. As a result, it is strongly encouraged that learners use their own professional networks to arrange site visits to enable them to get first-hand knowledge of dispensing practices in various pharmacy settings before participating in these lab activities.

2. The **Critical Reflection Exercises** completed following each lab activity are a key strategy for ensuring that pharmacy technicians fully appreciate the significance of the checking process and the impact of their decisions and actions in this critical aspect of pharmacy practice. All three exercises must be completed. **Failure to submit this assignment or submission of an assignment that is incomplete will result in a grade of “zero” for the course.**
3. 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 a 20% per day reduction. After 5 days, including weekends and holidays, the assignment or paper will receive a grade of zero.

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 assignments as they are assigned.

4. 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.
5. In many jurisdictions, the Pharmacy Regulatory Authority has mandated that following successful completion of this course, as preparation for registration, learners must complete a structured practical evaluation in the workplace to verify their ability to consistently perform accurate product release. (Consult the PRA web site for more information.)

V. REQUIRED TEXTS AND OTHER LEARNING MATERIALS

Lesson handouts