New Course Outline

- The **PharmD Approval Process for New Course Outlines** document provides for more information on next steps and approval timelines.
- The **Course Outline Submission Overview** document provides more detailed guidelines on course learning objectives, topic outlines/scheduling requirements, and assessment methods.
- The **AFPC Educational Outcomes for Professional Programs** document provides complete information on roles and key competencies for Pharmacy Degree Programs.

**Course Number**: PHM105H1

**Course Title**: Medication Therapy Management 1

**Outline Version Code**: 

**Course Description:**

Medication Therapy Management (MTM) involves a partnership between the patient, pharmacist, and other healthcare providers to promote safe and effective medication use so that desirable patient outcomes are attained. It is founded on the philosophy of Pharmaceutical Care, and may encompass an array of services, whereby the pharmacist employs a systematic patient-centered approach to define and achieve goals related to optimal pharmacotherapy. The MTM series of courses will be delivered longitudinally over three years of the undergraduate program, with MTM1 being the first of the four-part course series. MTM1 will allow students to begin to apply knowledge and develop skills needed to undertake MTM, with content drawn from co-requisite and pre-requisite requirements. Lecture and laboratory sessions will be designed to facilitate guided, independent, and collaborative learning. A key element of MTM1 is that students will have the opportunity to undertake the role of a pharmacist in a simulated community practice environment and will be responsible for various tasks, such as conducting patient interviews, assessing the appropriateness of pharmacotherapy, providing medication-related patient education, actively participating in the medication dispensing process, responding to drug information queries from patients and health care providers, documenting pharmacotherapeutic recommendations, and, interpreting the pharmacist's ethical and legal obligations within provincial and federal regulatory frameworks.

**Semester**: ☒ Winter  ☐ Fall   ☐ Summer

**Course Type**: ☒ Mandatory  ☐ Elective  ☐ Selective

**1. Course Learning Objectives:**

Upon completion of this course, students will have achieved the following level of learning objectives:

- **Introductory** = knowledge and comprehension of concepts, definitions
- **Intermediate** = application of concepts to simple situations
- **Advanced** = application of concepts to more complex situations with ability to synthesize and evaluate
Knowledge

Introductory Level:

- Define Medication Therapy Management (MTM). Understand how MTM relates to the patient care process used in Pharmaceutical Care.

- Discuss how the drug distribution process in community practice intersects with MTM.

- Identify and differentiate activities and responsibilities within the scope of practice of pharmacists, pharmacy students, interns, and pharmacy technicians.

- Identify the legal requirements for usual drug distribution activities in community practice, as required by relevant federal and provincial legislation.

- Describe and/or demonstrate the administration of various dosage forms used to achieve therapeutic outcomes.

- Outline the core elements of patient counseling.

- Outline the key steps in completing a medication review.

- Identify factors that may contribute to medication-related errors in a community practice setting.

Intermediate Level:

Advanced Level:
**Skills**

**Introductory Level:**

- Effectively prioritize and organize workflow as an individual as well as within a simulated team-based community practice.

- Interpret and process prescription orders (verbal and written) commonly presented in community practice.

- Accurately complete pharmaceutical calculations related to medication dispensing.

- Adhere to legal requirements for drug distribution activities in community practice.

- Develop techniques to communicate effectively, both verbally and in writing, to patients and health care providers.

- Classify and respond effectively to routine drug information requests.

- Identify medication processing errors (MPEs) involving written prescriptions.

- Develop patient interviewing skills using a systematic framework during simulated patient encounters. Perform and document a medication review.

- Provide accurate and relevant medication-related education using a patient-centered approach.

- Document clinical encounters accurately and appropriately.

- Reflect on performance, respond to feedback, and modify behaviour accordingly.

- Produce pharmaceutically acceptable topical dosage forms during a compounding practice lab.

**Intermediate Level:**

**Advanced Level:**
Attitudes/Values:
Introductory Level:

- Demonstrate professionalism through appropriate behaviours and attitudes, as guided by faculty expectations on professionalism
- Reflect on feedback received during professional laboratories and from written assessments

Intermediate Level:

Advanced Level:

2. Rationale for Inclusion in the Curriculum:

The Blueprint for Pharmacy: The Vision for Pharmacy (June 2008) outlined a future of pharmacy practice in Canada focused on improving drug therapy outcomes for Canadians through patient-centered care. MTM is being adopted throughout Canada; it encompasses diverse pharmacist services designed to enhance patient outcomes through empowering patients to optimize their medication use, and promotes collaborative practice with other healthcare providers. In the Pharmaceutical Care Model, a critical underpinning of MTM, pharmacists identify, prevent, and resolve actual and potential drug therapy problems through an iterative process that includes clinical assessment, care plan development and implementation, and follow-up monitoring. MTM1 will allow students to begin to develop cognitive skills and apply knowledge, driven by content previously or concurrently taught within the curriculum, so that they may become effective practitioners in this context.

3. Pre-requisites:

PHM110 Health Systems I, PHM113 Pharmacy Informatics, PHM130 Pharmacy Calculations

4. Co-requisites:

PHM101 Pharmacotherapy I: Foundations and General Medicine, PHM141 Pharmaceutics, PHM114 Social and Behavioural Health

5. Course Contact Hours and Teaching Methodologies:

<table>
<thead>
<tr>
<th>Didactic (lecture)</th>
<th>Hours: 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large group problem-based/ case-based learning (group size: )</td>
<td>Hours:</td>
</tr>
<tr>
<td>Laboratory or Simulation</td>
<td>Hours: 27</td>
</tr>
<tr>
<td>Tutorial/Seminar/Workshop/Small Group (group size: )</td>
<td>Hours:</td>
</tr>
<tr>
<td>Experiential</td>
<td>Hours:</td>
</tr>
<tr>
<td>On-line</td>
<td>Hours:</td>
</tr>
<tr>
<td>Other (please specify):</td>
<td>Hours:</td>
</tr>
<tr>
<td><strong>Total Course Contact Hours</strong></td>
<td><strong>Hours: 39</strong></td>
</tr>
</tbody>
</table>
6. Estimate and description of student's weekly out-of-class preparation time excluding exam preparation:

Preparation will be required for each of the laboratory sessions (Labs 1 through 8, as well as an additional lab, the “Compounding Lab”). A 1.5-hour Orientation session will occur prior to the first lab. Students will receive a list of medications reflecting themes related to dosage forms. They will research specific medications using a combination of product monographs and other tertiary references to prepare a medication-related patient education template. The preparation time for each lab is estimated to be 1.5 to 2 hours x 9 labs = 13-18 hours per term.

Students will also be responsible for online co-requisite materials. There are three required modules (recommended to be completed prior to commencing MTM1):
- Jurisprudence (estimated time 4-5 hours);
- Language of Practice (estimated time 4-5 hours); and,
- Patient Care Process (estimated time: 4-5 hours).

As well, students will be expected to know the material/content covered in Pharmacotherapy 1: Foundations and General Medicine, as appropriate. The online co-requisite material will be tested as part of the mid-term and final written examinations.

7. Topics Covered and Lecture Specific Learning Objectives

**Week 1**
**Lecture Topic:** Course Introduction and Overview of MTM Course & Pharmaceutical Care

**Lecture Learning Objectives:**
- Identify course outcomes
- Define Medication Therapy Management
- Course Overview
- Prepare for Orientation Lab

**Week 2**
**Lecture Topic:** The Prescription Process and Practice Lab Detailed Overview

**Lecture Learning Objectives:**
- Understand the prescription process
- Practice Lab detailed instructions

**Week 3**
**Lecture Topic:** Practice Lab Debrief, Lab 1 – Prep: Oral Solid Dosage Form and Communication Skills and the Patient Interview

**Lecture Learning Objectives:**
- Discuss feedback from the Practice Lab
- Prepare for Lab 1: Oral Solid Dosage Form, Drug Information
- Review Oral Solid Dosage forms
- Discuss communication skills in the context of the Patient Interview
Week 4  
**Lecture Topic:** Lab 1 Debrief, Lab 2 – Prep: Topicals, Dangerous Abbreviations

**Lecture Learning Objectives:**  
- Discuss feedback from Lab 1  
- Prepare for Lab 2: Topical Dosage form, Drug Information  
- Review NAPRA Drug Schedules  
- Identify Dangerous Abbreviations

Week 5  
**Lecture Topic:** Lab 2 Debrief, Lab 3 Prep – Oral Liquids, Pharmaceutical Calculations

**Lecture Learning Objectives:**  
- Discuss feedback from Lab 2  
- Prepare for Lab 2: Oral Liquids  
- Discuss strategies to administer liquids to pediatric patients  
- Review common pharmaceutical calculations encountered in practice

Week 6  
**Lecture Topic:** Lab 3 Debrief, Lab 4 – Prep: Eye, Ear, Vaginal, Rectal Products

**Lecture Learning Objectives:**  
- Discuss feedback from Lab 3  
- Prepare for Lab 4: Eye, Ear, Vaginal, Rectal Products  
- Identify resources to determine the identity of Foreign Products  
- Discuss principles of documentation in Pharmacy Practice

Week 7  
**Lecture Topic:** Lab 4 Debrief, Lab 5 – Prep: Nasal, Inhalants, Transdermal. Intro to DTPs and MedsChecks

**Lecture Learning Objectives:**  
- Discuss Feedback from Lab 4  
- Prepare for Lab 5: Nasal, Inhalants, Transdermal products  
- Review the categories of DTPs and how they will be incorporated into the labs  
- Intro to the MedsCheck Program

Week 8  
**Lecture Topic:** Lab 6 – Prep: MedsCheck Process in Detail

**Lecture Learning Objectives:**  
- Overview of Ontario MedsCheck: definition, criteria and principles  
- Describe an Annual MedsCheck: required forms and related steps

Week 9  
**Lecture Topic:** Lab 7 – Prep: Drug Safety in Pregnancy, Tips on Counseling - Inhaled Medications, and Narcotic Safety and Awareness Act

**Lecture Learning Objectives:**  
- Debrief the MedsCheck lab  
- Discuss the process of taking verbals for Targeted Substances
• Identify appropriate references when answering questions related to drug safety in pregnancy and lactation
• Prepare for Lab 6: Inhalers

Week 10
Lecture Topic: Lab 8 – Prep: Narcotic, Controlled Drugs and Targeted Substances

Lecture Learning Objectives:
• Lab 7 Debrief
• Prepare for Lab 8: Culminating lab (various dosage forms)
• Review the ODB Limited Use program
• Understand how the NMS program related to Narcotic and Controlled Drug
• Discuss strategies to identify forgeries

Week 11
Lecture Topic: Prescription Processing Errors, Ontario Drug Benefit Program and Third Party Insurance, and Milestone Preparation

Lecture Learning Objectives:
• Lab 8 Debrief
• Prepare for Milestone
• Describe the process of adjudication to 3rd parties
• Define various insurance terms that are common in pharmacy practice

Week 12
Lecture Topic: Expanded Scope of Practice and Compounding Lab Prep

Lecture Learning Objectives:
• Understand the Pharmacists' Expanded Scope of Practice
• Identify opportunities to implement the expanded scope
• Review procedures for the Compounding Lab
• Discuss the various factors to consider when preparing compounded products
8. Assessment Methodologies Used:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Course Learning Objectives Addressed</th>
<th>Assessment Method Used</th>
<th>Percent of Course Grade</th>
<th>For Group Work: Individualized or same mark for all group members</th>
</tr>
</thead>
<tbody>
<tr>
<td>☒ Assignment</td>
<td>Outline of Sample Lab Session</td>
<td>Performance-based lab activities</td>
<td>7 x 5% + 2 x 2.5% = 40% total</td>
<td></td>
</tr>
<tr>
<td>☐ Assignment</td>
<td>Material from online modules and lab/lecture content up until 1 week prior to midterm</td>
<td>Written MCQ/Short Answer</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>☒ Assignment</td>
<td>Material from all prior labs and lectures</td>
<td>Milestone (OSCE)</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>☐ Assignment</td>
<td>Material from any lab/lecture, with focus on content since midterm</td>
<td>Written MCQ/Short Answer</td>
<td>20%</td>
<td></td>
</tr>
</tbody>
</table>

Expectation for pass grades for all Pharmacy courses is 60%

9. Policy and procedure regarding late assignments/examinations/laboratories:

Students who fail to submit an assignment by the specified due date will receive a deduction of 15% for each day beyond the due date (including weekends/holidays), to a maximum of 45%. Assignments will not be accepted for grading after 3 late days.

10. Policy and procedure regarding missed assignments/examinations/laboratories:

Students who fail to submit an assignment by the specified due date, and who have a valid petition filed with the Registrar's office will be eligible to submit the completed assignment, or an alternative assignment based on course requirements, with no academic penalty.
11. AFPC Education Outcomes addressed (check all those that apply):
- Refer to AFPC Educational Outcomes for Professional Programs for further information about the role and key competencies.

As Care Providers, pharmacy graduates:

**CP1 – Practice within the pharmacist scope of practice and expertise**

☒ CP1.1 Apply knowledge from the foundational sciences to make decisions relevant to the contemporary and evolving scope of pharmacist practice;

☒ CP1.2 Integrate AFPC Communicator, Collaborator, Leader-Manager, Health Advocate, Scholar, and Professional roles in their practice of pharmacy;

☒ CP1.3 Recognize and respond to the complexity, uncertainty and ambiguity inherent in pharmacy practice;

☐ CP1.4 Explain the benefits, risks and rationale associated with pharmacist-provided care as an important step in obtaining and documenting consent to pharmacist care;

☐ CP1.5 Recognize and take appropriate action when signs, symptoms and risk factors that relate to medical or health problems that fall into the scope of practice of other health professionals are encountered.

**CP2 – Provide patient-centred care**

☒ CP2.1 Collect, interpret, and assess relevant, necessary information about a patient’s health-related care needs;

☒ CP2.2 Formulate assessments of actual and potential issues and in collaboration with the patient and other health team members as appropriate, prioritize issues to be addressed in a given patient encounter;

☐ CP2.3 Create and document plans in collaboration with the patient and other health team members as appropriate, and make recommendations to prevent, improve or resolve issues;

☒ CP2.4 Implement plans in collaboration with the patient and other health team members as appropriate, including:

- CP2.4.1 obtaining consent
- CP2.4.2 making a referral or consulting others
- CP2.4.3 adapting, initiating, renewing/continuing, discontinuing or administering medication as authorized
- CP2.4.4a dispensing and/or
- CP2.4.4b compounding and/or
- CP2.4.4c delegating/authorizing such tasks to others appropriately
- CP2.4.5 engaging the patient or care-giver through education, empowerment and self-management, and
CP2.4.6 negotiating the role of pharmacy and non-pharmacy team members in continuity and transitions of care.

☐ CP2.5 Follow-up by monitoring, evaluating progress toward achievement of the patient’s goals of therapy, adjusting plans in collaboration with the patient and health team members across the care continuum.

CP3 – Actively contribute, as an individual and as a member of a team providing care, to the continuous improvement of health care quality and patient safety

☒ CP3.1 Recognize and respond to harm and potential harm from health care delivery, including patient safety incidents;

☒ CP3.2 Adopt strategies that promote patient safety and address human and system factors;

As Communicators, pharmacy graduates:

CM1 – Communicate in a responsible and responsive manner that encourages trust and confidence

☒ CM1.1 Select and use oral, non-verbal and written communication strategies (tools, techniques, technologies, etc.) effectively so that the patient’s best interests are foremost;

☒ CM1.2 Provide timely, clear responses that are tailored to the context and audience;

☒ CM1.3 Express facts, evidence, opinions and positions accurately and effectively, with clarity and confidence;

☒ CM1.4 Listen, actively solicit and respond appropriately to ideas, opinions and feedback from others;

☒ CM1.5 Use language, pace, tone, and non-verbal communication that is suitable for:

  a) the intended outcomes of the communication, and
  b) the complexity, ambiguity, urgency and/or difficulty of a situation, conversation or conflict

☐ CM1.6 Seek and synthesize relevant information from others in a manner that ensures common understanding and where applicable, clarifies and secures agreement and/or consent;

☒ CM1.7 Compose and share oral, written, and electronic information in a manner that optimizes patient safety, dignity, confidentiality, and privacy.

CM2 – Communicate in a manner that supports a team approach to health promotion and health care

☒ CM2.1 Engage in respectful, empathetic, compassionate, non-judgmental, culturally safe, tactful conversations with patients, communities, populations, and health team members;

☐ CM2.2 Demonstrate awareness of the impact of one’s own experience level, professional culture, biases and power and hierarchy within the health team on effective working relationships,
communication and conflict resolution with health team members and adapt the approach to the situation appropriately;

☐ CM2.3 Demonstrate accuracy and appropriateness of communication as well as respect for the role of other health team members when disclosing information about harmful or potentially harmful situations;

☒ CM2.4 In word and in action, convey the importance of teamwork in patient-centered care, patient safety, health care quality improvement and health program delivery.

As **Collaborators**, pharmacy graduates:

**CL1 – Work effectively with members of the health team including patients, pharmacy colleagues and individuals from other professions**

☒ CL1.1 Establish and maintain positive relationships;

☐ CL1.2 Recognize, respect and negotiate the roles and shared/overlapping responsibilities of team members;

☐ CL1.3 Join with others in respectful, effective shared decision-making.

**CL2 – Hand over the care of the patient to other pharmacy team members and non-pharmacy team members to facilitate continuity of safe patient care**

☒ CL2.1 Determine when and how care should be handed over to another team member;

☐ CL2.2 Recognize, respect and honour the negotiate shared and overlapping responsibilities of patients, pharmacy team members and other health members when handovers occur;

☐ CL2.3 Demonstrate safe handover of care, using oral, written, and electronic communication, during a patient transition to a different care provider or setting.

As **Leader-Managers**, pharmacy graduates:

**LM1 – Contribute to optimizing health care delivery and pharmacy services**

☐ LM1.1 Work with others to apply quality improvement strategies and techniques to optimize pharmacy care;

☐ LM1.2 Contribute to a culture of patient safety;

☐ LM1.3 Confirm the quality, safety, and integrity of products;

☒ LM1.4 Use health informatics to improve the quality of care, manage resources and optimize patient safety.

**LM2 – Contribute to the stewardship of resources in health care systems**
LM2.1 Apply evidence and management processes to achieve cost appropriate care;

☐ LM2.2 Allocate health care resources for optimal patient care;

☐ LM2.3 Contribute to the management of finances and health human resources in pharmacy practice settings;

LM3 – Demonstrate leadership skills

☐ LM3.1 Demonstrate leadership skills to enhance pharmacy practice and health care.

LM4 – Demonstrate management skills

☐ LM4.1 Work with others to apply the principles of effective management and supervision of health human resources and medication use systems;

☒ LM4.2 Use effective strategies to manage and improve their own practice of pharmacy.

As Health Advocates, pharmacy graduates:

HA1 – Respond to an individual patient’s health needs by advocating with the patient within and beyond the patient care environment

☐ HA1.1 Work with patients to address determinants of health that affect them and their access to needed health services or resources;

☒ HA1.2 Work with patients to increase opportunities to adopt healthy behaviours;

☐ HA1.3 Incorporate disease prevention, health promotion and health surveillance into interactions with individual patients.

HA2 – Respond to needs of communities or populations they serve by advocating with them for system-level change in a socially accountable manner

☐ HA2.1 Work with community or population to identify the determinants of health that affect them;

☒ HA2.2 Participate in health promotion and disease prevention programs.
As Scholars, pharmacy graduates:

**SC1 – Apply medication therapy expertise to optimize pharmacy care, pharmacy services and health care delivery**

☒ SC1.1 Use knowledge and problem-solving to arrive at recommendations and decisions that are appropriate, accurate, and practical;

☒ SC1.2 Use professional experience to solve routine, previously encountered problems;

☒ SC1.3 Use established decision-making frameworks and apply learning required to manage new situations and problems.

**SC2 – Integrate best available evidence into pharmacy practice**

☒ SC2.1 Generate focused questions related to needs for information, recommendations and decisions in practice;

☒ SC2.2 Use systematic approaches in the search for best available evidence;

☒ SC2.3 Critically appraise health-related research and literature;

☒ SC2.4 Incorporate best available evidence in the decision-making process.

**SC3 – Contribute to the creation of knowledge or practices in the field of pharmacy**

☒ SC3.1 Apply scientific principles of research and scholarly inquiry;

☒ SC3.2 Apply ethical principles that underlie research and scholarly inquiry.

**SC4 – Teach other pharmacy team members, the public and other health care professionals including students**

☒ SC4.1 Provide effective education to others;

☐ SC4.2 Employ appropriate teaching roles when teaching others;

☐ SC4.3 Deliver effective feedback in teaching and learning situations;

☐ SC4.4 Use appropriate learning assessment and evaluation strategies when working with patients, team members, students and teachers.
As Professionals, pharmacy graduates:

**PR1 – Committed to apply best practices and adhere to high ethical standards in the delivery of pharmacy care**

☒ PR1.1 Exhibit professional behaviour whether face-to-face, in writing, or via technology-enabled communication. Professional behaviour includes, but is not limited to:
   a) demonstrating honesty, integrity, humility, commitment, altruism, compassion, respect for diversity and patient autonomy;
   b) being accessible, diligent, timely and reliable in service to others;
   c) abiding by the principle of non-abandonment;
   d) maintaining appropriate interpersonal boundaries;
   e) maintaining professional composure, demeanor, and language even in difficult situations, and;
   f) maintaining privacy and confidentiality;

☒ PR1.2 Use ethical frameworks as one component of professional judgment;

☒ PR1.3 Recognize and respond to situations presenting ethical dilemmas, including conflicts of interest;

☐ PR1.4 Engage in activities that:
   a) protect the public, and;
   b) advance the practice of pharmacy.

**PR2 – Able to recognize and respond to societal expectations of regulated health care professionals**

☒ PR2.1 Take responsibility and accountability for actions and inactions;

☒ PR2.2 Demonstrate a commitment to patient safety and quality improvement;

☒ PR2.3 Honour the laws, ethical codes, and regulatory requirements (by-laws, standards, policies) that govern the self-regulated profession of pharmacy;

☒ PR2.4 Demonstrate an understanding of federal, provincial/territorial, and municipal laws, policies and standards that apply to pharmacy workplaces;

☐ PR2.5 Demonstrate an ability to maintain competence to practice through evaluating areas for improvement and planning, undertaking learning activities to address limitations in competence and/or performance and incorporating learning into practice;

☐ PR2.6 Identify and respond to unprofessional, unethical, and illegal behaviours in pharmacists, other pharmacy team members, and other health professionals.

**PR3 – Committed to self-awareness in the management of personal and professional well being**
PR3.1 Set professional and personal goals, priorities, and manage their time to balance patient care, workflow, and practice requirements;

PR3.2 Examine, reflect upon, and manage personal attributes (knowledge, skills, beliefs, biases, motivations, emotions, etc.) that could influence self-development and professional performance;

PR3.3 Adapt their practice of pharmacy to fulfill evolving professional roles;

PR3.4 Recognize and respond to self and colleagues in need.