Course Number: PHM241H

Course Title: Topics in Pharmaceutical Quality and Clinical Laboratory Medicine

Outline Version Code:

Course Description:
This course will discuss the importance of assuring the pharmaceutical quality of medicinal products including establishment of quality control assays and specifications, bioequivalence testing of generic drugs, special considerations for biopharmaceutical products, and the regulatory process in Canada with a focus on drug quality. In addition, the course will discuss the application of analytical techniques in clinical laboratory medicine with a focus on commonly used tests to monitor patient health and the therapeutic use of drugs, including tests for personalized drug therapy. The course includes a laboratory that will present drug formulation and related quality control issues.

Semester: ☒ Fall ☐ Winter ☐ 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:

– Describe common quality parameters for medicinal products, indicate the typical specifications and summarize the regulatory approval process in Canada for drug products with a focus on pharmaceutical quality.
– State common clinical laboratory medicine tests performed for patient management, describe the methods of analysis and identify results that are within or outside the normal range.
– Relate the results of clinical laboratory medicine tests to personalized drug therapy for patients.
– Explain the analytical tests used to assure the bioequivalence of generic and brand-name drug products.
Intermediate Level:
- Explain the principles of analytical methods used for pharmaceutical quality control and for clinical laboratory medicine tests and apply these to a new pharmaceutical or drug therapy problem.

Advanced Level:

Skills
Introductory Level:

Intermediate Level:
- Apply formulation skills to produce a pharmaceutical dosage form, analyze the quality of the product and judge the acceptability of the analytical results.

Advanced Level:

Attitudes/Values:
Introductory Level:
- Realize the importance of pharmaceutical quality control and the regulatory process in assuring the quality of drug products in Canada.
- Consider the clinical laboratory tests that would be necessary to appropriately manage the health and drug therapy of a patient.
- Reflect on the challenges of pharmaceutical formulation and the issues that may affect the quality of dosage forms.

Intermediate Level:

Advanced Level:

2. Rationale for Inclusion in the Curriculum:
Pharmacists dispense drug products including generic products considered to be bioequivalent to the brand-name product by the provincial drug benefit program. It is important for the pharmacist to appreciate the issues related to assuring the quality of drug products as well as the regulatory process for their approval in Canada with a focus on
drug quality. The pharmacist should also have knowledge of the challenges associated with formulation of a dosage form for drug products and be able to identify key quality parameters and tests needed to assure pharmaceutical acceptability. Finally, clinical laboratory medicine tests are commonly used to assess the health of patients, monitor the effectiveness and toxicity of drug therapy and more recently, to select patients for personalized drug therapy. Since pharmacists need to contribute significantly to managing drug therapy for patients, it is essential that they appreciate the principles underlying these tests and interpret the results as within or outside normal ranges.

3. Pre-requisites:
PHM141H1 (Pharmaceutics): The laboratory component of the course will require knowledge of pharmaceutical principles of dosage form formulation and will build on knowledge acquired in this course.;
PHM144H1 (Pharmacokinetics): The discussion of the bioequivalence of generic and brand-name drugs relies on an understanding of the pharmacokinetics of absorption and elimination of drugs.

4. Co-requisites:
n/a

5. Course Contact Hours and Teaching Methodologies:

| Didactic (lecture) | Hours: 10 |
| Large group problem-based/ case-based learning (group size: 60) | Hours: 2 |
| Laboratory or Simulation | Hours: 24 |
| Tutorial/Seminar/Workshop/Small Group (group size: ) | Hours: |
| Experiential | Hours: |
| On-line | Hours: |
| Other (please specify): | Hours: |
| **Total Course Contact Hours** | **Hours: 36** |

6. Estimate and description of student's weekly out-of-class preparation time excluding exam preparation:
One to two hours twice per semester to prepare for problem-based sessions (two in the semester). One to two hours per week to prepare for laboratory quizzes and to review Powerpoint lecture notes and laboratory procedures.

7. Topics Covered and Lecture Specific Learning Objectives

**Week 1**

**Lecture Topic:** Introduction to the course and overview of pharmaceutical analysis; Lab: Formulation and pharmaceutical quality of suspensions, Groups A and B

**Lecture Learning Objectives:**
Knowledge:
- Students will be able to describe a range of pharmaceutical analytical methods and identify under which circumstances these are applied.
Skills:
- Students will prepare a pharmaceutical suspension and measure the viscosity as well as compare the flocculation properties of different suspensions.

Attitudes:
- Students will realize the importance and range of pharmaceutical analysis techniques employed in assuring the quality of drug products.

Laboratory session:
- Formulation and pharmaceutical quality of suspensions (Groups A and B – two separate sessions).

Week 2
Lecture Topic: The drug approval process in Canada with a focus on drug quality; Lab: Formulation and pharmaceutical quality of suspensions, Groups C and D

Lecture Learning Objectives:
Knowledge:
- Students will be able to summarize the regulatory framework for drug approval in Canada and list those key aspects that assure the quality of drug products.

Skills:
- Students will be able to prepare a pharmaceutical suspension and measure the viscosity as well as compare the flocculation properties of different suspensions.

Attitudes:
- Students will be able to realize the important role of Health Canada in assuring the quality of drug products and exemplify professional and ethical attitudes towards assuring the safety of drug therapy of diseases.

Laboratory session:
- Formulation and pharmaceutical quality of suspensions (Groups C and D – two separate sessions).

Week 3
Lecture Topic: Pharmaceutical quality and GMP processes; Lab: Formulation and pharmaceutical quality of suppositories and other molded dosage forms, Groups A and B

Lecture Learning Objectives:
Knowledge:
- Students will be able to describe the important parameters and quality control tests needed to assure the quality of drug products and identify and list key GMP processes in drug manufacturing to assure that quality standards are achieved.

Skills:
- Students will be able to demonstrate the compounding of a suppository or other molded dosage form and measure its potency by a UV-visible absorbance assay.

Attitudes:
- Students will be able to realize the importance of GMP processes in assuring pharmaceutical quality.

Laboratory session:
- Formulation and pharmaceutical quality of suppositories and other molded dosage forms (Groups A and B – two separate sessions).
**Week 4**

**Lecture Topic:** Establishing specifications and standards for drug products; Lab: Formulation and pharmaceutical quality of suppositories and other molded dosage forms, Groups C and D

**Lecture Learning Objectives:**

**Knowledge:**
- Students will be able to describe how specifications and quality control tests are established for drug products and explain the role of pharmacopeial standards.

**Skills:**
- Students will be able to demonstrate the compounding of a suppository or other molded dosage form and measure its potency by a UV-visible absorbance assay.

**Attitudes:**
- Students will be able to reflect on the importance of standards for assuring the quality of drug products and consider the availability of pharmacopeial standards.

**Laboratory session:**
- Formulation and pharmaceutical quality of suppositories and other molded dosage forms (Groups C and D – two separate sessions).

**Week 5**

**Lecture Topic:** Bioequivalence of generic drug products and quality aspects of biopharmaceutical drugs; Lab: Formulation and pharmaceutical quality of ointments, Groups A and B

**Lecture Learning Objectives:**

**Knowledge:**
- Students will be able to compare and interpret pharmacokinetic data and assess the bioequivalence of two drug products (generic and brand name) as well as summarize the types of tests needed to assure the quality of biopharmaceutical drugs (e.g. monoclonal antibodies, cytokines and peptides).

**Skills:**
- Students will be able to formulate different types of ointments (O/W, W/O, hydrophilic or hydrophobic) and measure the release of drug using a UV-visible absorbance assay.

**Attitudes:**
- Students will be able to reflect on the bioequivalence of generic and brand-name drug products.

**Laboratory session:**
- Formulation and pharmaceutical quality of ointments (Groups A and B – two separate sessions).

**Week 6**

**Lecture Topic:** Interactive session – Problem-based case study in drug quality; Lab: Formulation and pharmaceutical quality of ointments, Groups C and D

**Lecture Learning Objectives:**

**Knowledge:**
- Students will apply the knowledge obtained to date in the course to analyze a problem-based case study in drug quality and formulate the best possible solution to solve the problem.

**Skills:**
- Students will be able to formulate different types of ointments (O/W, W/O, hydrophilic or hydrophobic) and measure the release of drug using a UV-visible absorbance assay.
Attitudes:
- Students will realize the issues related to the drug quality problem, consider different solutions and exemplify ethical and professional approaches to solve the problem.

Laboratory session:
- Formulation and pharmaceutical quality of ointments (Groups C and D – two separate sessions).

Week 7
Lecture Topic: Introduction to clinical laboratory medicine/cardiac and thyroid/parathyroid function tests; Lab: Formulation and pharmaceutical quality of powders and capsules, Groups A and B

Lecture Learning Objectives:
Knowledge:
- Students will be able to list common clinical laboratory medicine tests and describe in detail tests used for assessing cardiac function and thyroid/parathyroid function and distinguish results within or outside the normal range.

Skills:
- Students will be able to formulate four different pharmaceutical powders and contrast their properties (density, consolidation index, flowability) and will analyze the dissolution properties of a capsule or tablet dosage form.

Attitudes:
- Students will be able to consider the results of clinical laboratory test results in devising a plan for patient management.

Laboratory session:
- Formulation and pharmaceutical quality of powders and capsules (Groups A and B two separate sessions).

Week 8
Lecture Topic: Liver and renal function tests; Lab: Formulation and pharmaceutical quality of powders and capsules, Groups C and D

Lecture Learning Objectives:
Knowledge:
- Students will be able to describe in detail tests used for assessing liver function and renal function and distinguish results within or outside the normal range.

Skills:
- Students will be able to formulate four different pharmaceutical powders and contrast their properties (density, consolidation index, flowability) and will analyze the dissolution properties of a capsule or tablet dosage form.

Attitudes:
- Students will be able to consider the results of clinical laboratory test results in devising a plan for patient management.

Laboratory session:
- Formulation and pharmaceutical quality of powders and capsules (Groups C and D two separate sessions).
Week 9
Lecture Topic: Therapeutic drug monitoring and clinical toxicology; Lab: Formulation and pharmaceutical quality of tablets, Groups A and B

Lecture Learning Objectives:
Knowledge:
- Students will be able to identify drugs which need therapeutic monitoring or clinical toxicological analysis, describe the methods to measure these drugs in biological specimens and distinguish between concentrations within or outside the therapeutic range.

Skills:
- Students will be able to formulate a tablet dosage form and measure its properties (hardness, weight uniformity, disintegration time, content uniformity and friability).

Attitudes:
- Students will be able to consider the concentrations of a drug in a biological specimen, realize if these are within or outside the therapeutic or toxic range and plan patient management based on these findings.

Laboratory session:
- Formulation and pharmaceutical quality of tablets (Groups A and B – two separate sessions).

Week 10
Lecture Topic: Tests for personalized cancer therapy Lab: Formulation and pharmaceutical quality of tablets, Groups C and D

Lecture Learning Objectives:
Knowledge:
- Students will be able to identify and describe common clinical laboratory tests used to diagnose cancer and select patients for targeted cancer therapies as well as apply these to monitor their response and resistance to treatment.

Skills:
- Students will be able to formulate a tablet dosage form and measure its properties (hardness, weight uniformity, disintegration time, content uniformity and friability).

Attitudes:
- Students will be able to consider the biological features of a cancer and be able to integrate these to plan the most appropriate treatment for a patient.

Laboratory session:
- Formulation and pharmaceutical quality of tablets (Groups C and D – two separate sessions).

Week 11
Lecture Topic: Point-of-care (POC) testing devices including blood glucose measurement Lab: Quality of biopharmaceutical products, Groups A and B

Lecture Learning Objectives:
Knowledge:
– Students will be able to relate the readings obtained in home glucose monitoring devices and other POC systems to their principles of analyte detection and measurement and compare and discuss the usefulness of POC testing with laboratory based testing.

Skills:
– Students will be able to analyze the purity of a biopharmaceutical product (e.g. monoclonal antibody).

Attitudes:
– Students will be able to reflect on the usefulness of POC testing and consider issues relating to the accuracy and reproducibility of POC versus laboratory based tests.

Laboratory session:
– Quality of biopharmaceutical products (Groups A and B – two separate sessions).

Week 12
Lecture Topic: Interactive session – Problem-based case study in clinical laboratory medicine; Lab: Quality of biopharmaceutical products, Groups C and D

Lecture Learning Objectives:
Knowledge:
– Students will apply the knowledge obtained to date in the course to analyze a problem-based case study in clinical laboratory medicine and formulate the best possible solution to solve the problem.

Skills:
– Students will be able to analyze the purity of a biopharmaceutical product (e.g. monoclonal antibody).

Attitudes:
– Students will realize the issues related to the clinical laboratory medicine case study problem, consider different solutions and exemplify ethical and professional approaches to solve the problem.

Laboratory session:
– Quality of biopharmaceutical products (Groups C and D – two separate sessions).

Week 13
Lecture Topic:

Lecture Learning Objectives:
### 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 ☐ Presentation ☐ Participation ☒ Mid-term ☐ Final Exam</td>
<td>Describe common quality parameters for medicinal products, indicate the typical specifications and summarize the regulatory approval process in Canada for drug products with a focus on pharmaceutical quality. Explain the analytical tests used to assure the bioequivalence of generic and brand-name drug products. Describe GMP processes in drug manufacturing that are used to assure drug product quality. Compare and interpret pharmacokinetic data and assess the bioequivalence of drugs.</td>
<td>Mid-term examination (SAs). Lectures in weeks 1-6</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>☐ Assignment ☐ Presentation ☐ Participation ☐ Mid-term ☒ Final Exam</td>
<td>State common clinical laboratory medicine tests performed for patient management, describe the methods of analysis and identify results that are within or outside the normal range. Relate the results of clinical laboratory medicine tests to personalized drug therapy for patients.</td>
<td>Final examination (MCQs). Non-cumulative (lectures in weeks 7-12)</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>☒ Assignment ☐ Presentation ☐ Participation ☐ Mid-term ☐ Final Exam</td>
<td>Apply formulation skills to produce a pharmaceutical dosage form, analyze the quality of the product and judge the acceptability of the analytical results.</td>
<td>Laboratory reports, product evaluation and quizzes (SAs)</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>☐ Assignment ☐ Presentation ☐ Participation ☐ Mid-term ☐ Final Exam</td>
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</tbody>
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**Expectation for pass grades for all Pharmacy courses is 60%**

9. Policy and procedure regarding late assignments/examinations/laboratories:
10. Policy and procedure regarding missed assignments/examinations/laboratories:
Missed Exam/Test Policy: Students who miss an examination or a test and who have a valid petition filed with the Registrar's office will be eligible to complete a make-up examination or test. The format of this examination or test will be at the discretion of the course coordinator, and may include, for example, an oral examination.

Missed Laboratory/Tutorial Policy: Students who miss a scheduled laboratory session/tutorial and who have a valid petition filed with the Registrar's office will be eligible to:
a) Attend a subsequent regularly scheduled laboratory session (if space is available) or
b) Complete a make-up assignment related to the topic of the laboratory

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-centred 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.