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.

<table>
<thead>
<tr>
<th><strong>Course Number:</strong></th>
<th>PHM 202H1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course Title:</strong></td>
<td>Pharmacotherapy 3: Endocrinology/Nephrology/Urology</td>
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</tbody>
</table>

**Outline Version Code:** 2018 version 2 (updated for Fall 2018)

**Course Description:**

This course is designed for pharmacy students to develop a broad understanding of pathophysiology, pharmacology, clinical pharmacokinetics, and pharmacotherapy in major areas of endocrinology, nephrology, and urology. The course will use a problem-based approach with emphasis on the integration and application of fundamental principles to specific clinical situations.

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

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

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:**

**Endocrine:**
List the strategies for steroid replacement during acute physiologic stress and strategies to taper steroids.

**Nephrology:**
Identify the appropriate (laboratory, clinical biochemistry, pathology, histology, medical imaging) findings used in the diagnosis and on-going monitoring of the selected disease conditions.

Describe the mechanisms of drug induced acute kidney injury.

Describe the indication for renal replacement therapy, the principles of dialysis, the available dialysis modalities (hemodialysis, peritoneal dialysis, continuous renal replacement therapy), kidney transplantation, and the implications on drug therapy.
Intermediate Level:

Urology:

Discuss the pathophysiology, epidemiology, clinical presentation, risk factors, drugs that may cause/exacerbate, natural history, diagnosis and differential diagnosis for the following conditions: benign prostate hyperplasia, urinary incontinence (stress/urge/overflow incontinence), and erectile dysfunction.

Compare and contrast the relevant (available, investigational, complementary, alternative and emerging) classes of drugs used for the selected conditions based on the following criteria: indications, mechanism of action, pharmacokinetics, pharmacodynamics, adverse effects, contraindications, drug interactions, convenience, cost, onset of action, formulations, stability, and with special attention to geriatric patients.

Describe the non-pharmacologic management for the selected conditions.

Endocrinology:

Discuss the pathophysiology, epidemiology, clinical presentation, risk factors, drugs that may cause/exacerbate, natural history, diagnosis and differential diagnosis for the following conditions: thyroid disorders, metabolic syndrome/prediabetes, Type 1 and Type 2 diabetes, and associated diabetic complications (including diabetic ketoacidosis, retinopathy, neuropathy, gastroparesis, nephropathy. Note: macrovascular complications will be discussed in subsequent PCT courses).

Discuss the normal physiology of the menstrual cycle.

Discuss the normal physiology, epidemiology, clinical presentation, natural history, diagnosis and differential diagnosis of menopause.

Identify the appropriate (laboratory, clinical biochemistry, pathology, histology, medical imaging) findings use in the diagnosis and on-going monitoring of the selected conditions.

Identify the treatment targets for thyroid disorders and diabetes mellitus.

Compare and contrast the relevant (available, investigational, complementary, alternative and emerging) classes of drugs used for the selected conditions based on the following criteria: indications, mechanism of action, pharmacokinetics, pharmacodynamics, adverse effects, contraindications, drug interactions, convenience, cost, onset of action, formulations, stability, and with special attention to pediatric, pregnant, and geriatric patients.

Compare and contrast the advantages and disadvantages of 1, 2, 3, 4, and 5 daily injection insulin regimens and insulin pump therapy.

Describe the non-pharmacologic management for the selected conditions.

Discuss ethical issues in the provision of emergency contraception.

Nephrology:

Discuss the pathophysiology, epidemiology, clinical presentation, risk factors and natural history, diagnosis and differential diagnosis for the following conditions: acute kidney injury, chronic kidney disease, and associated complications including anemia and bone mineral disorder.
Describe the advantages, assumptions and limitations of various methods used to estimate renal function (including Cockcroft-Gault, MDRD, inulin, 24-hour urine collection).

Describe the effect of renal impairment on absorption, distribution, metabolism, and elimination of drugs.

List the common drugs with significant renal elimination and identify important patient/drug characteristics to consider when adjusting the dosage for patients with renal impairment and for patients on dialysis.

Summarize the prevention strategies and general management of acute kidney injury.

Define and classify the stages of chronic kidney disease.

Summarize the treatment strategies to prevent and to slow the progression of chronic kidney disease.

Compare and contrast the relevant (available, investigational, complementary, alternative and emerging) classes of drugs used for the selected conditions (including proteinuria and chronic kidney disease,) based on the following criteria: indications, mechanism of action, pharmacokinetics, pharmacodynamics, adverse effects, contraindications, drug interactions (drug-drug, drug-food, drug-laboratory), convenience, cost, onset of action, formulations, stability with special attention to pediatric, pregnant, and geriatric patients.

Describe the non-pharmacologic management for the selected conditions.

Explain the implications on health care policy and drug coverage for high cost medications used in chronic kidney disease (ie. phosphate binding medications).

**Advanced Level:**

n/a

**Skills**

**Introductory Level:**

Analyze relevant information from subjective and objective sources (review of systems, physical examination, medical imaging, diagnostic test, biochemical markers) to determine drug therapy problems, urgency and priority for a given clinical situation.

**Intermediate Level:**

Select relevant data from review of systems, physical examination, laboratory tests and medical imaging to assess drug therapy needs.

Apply relevant findings from review of systems, physical examination, laboratory tests, medical imaging to determine actual and potential drug therapy needs.

Justify the selection of a preferred alternative for a given therapeutic scenario based on assessment of relevant therapeutic alternatives.

Use the pharmacotherapy work up to identify a given patient’s drug therapy problems.

Develop and justify a care plan with follow up for a given clinical situation.

Evaluate the quality, accuracy and completeness of the care plan.
Identify common secondary references to source information on pharmacokinetic and dosing recommendation for patients with renal impairment and for dialysis.

Interpret pharmacokinetic variables used to assess renal elimination of drugs.

Adjust drug dosages for varying severity of renal impairment and for dialysis. Calculate the dose/interval of selected medications (e.g., metformin) for patients with reduced renal function and for dialysis.

Alter or initiate insulin regimens and adjust insulin doses based on blood glucose readings.

**Advanced Level:**

Calculate and interpret different methods of estimating renal function (Cockcroft-Gault, MDRD, CKD-epi, 24 hour urine collection.

**Attitudes/Values:**

**Introductory Level:**

The student will use inter-professional patient-centred care principles to reach decisions for therapeutic alternatives where appropriate.

**Intermediate Level:**

The student will undertake assessment and care plan development activities in a manner respecting patient autonomy and the individual therapeutic goals.

The student will use inter-professional patient centered care principles to reach decisions for therapeutic alternatives and care plans.

**Advanced Level:**

The student will demonstrate respect for peers and instructors in class, workshops and small group seminars.

2. **Rationale for Inclusion in the Curriculum:**

Drugs used to treat endocrine, nephrologic and urologic conditions are among the top 10 therapeutic classes dispensed in Canada. These conditions are commonly encountered in practice. Pharmacists must have a good working knowledge of the pathophysiology and therapeutics to appropriately assess and manage patients with these conditions. This course will continue to develop the knowledge, skills, and attitudes introduced in General Medicine1 (PHM 101) and will serve as an important foundation for other Pharmacotherapy and Medication Therapy Management courses.

3. **Pre-requisites:**

PHM101H1 Pharmacotherapy 1 Foundations and General Medicine
PHM105H1 Medication Therapy Management 1
PHM113H1 Pharmacy Informatics
PHM140H1 Molecular Pharmacology
PHM141H1 Pharmaceutics
PHM142H1 Metabolic Biochemistry and Immunology
4. Co-requisites:

PHM205H1 Medication Therapy Management 2

5. Course Contact Hours and Teaching Methodologies:

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<tr>
<th>Didactic (lecture)</th>
<th>Hours: 22</th>
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<tr>
<td>Large group problem-based/ case-based learning</td>
<td>(group size: 60)</td>
</tr>
<tr>
<td>Laboratory or Simulation</td>
<td>Hours: 0</td>
</tr>
<tr>
<td>Tutorial/Seminar/Workshop/Small Group</td>
<td>(group size: 10)</td>
</tr>
<tr>
<td>Experiential</td>
<td>Hours: 0</td>
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<tr>
<td>On-line</td>
<td>Hours: 0</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>Hours: 0</td>
</tr>
<tr>
<td><strong>Total Course Contact Hours</strong></td>
<td><strong>Hours: 39</strong></td>
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</table>

6. Estimate and description of student’s weekly out-of-class preparation time excluding exam preparation:

Review learning objectives and prepared materials (3-7 hours/week), higher during case discussion weeks

7. Topics Covered and Lecture Specific Learning Objectives

**Week 1**

**Lecture Topic:** Course Introduction & Review of pharmacotherapy work up and care plan/course expectations (2 hours)

**Lecture Learning Objectives:**

**Knowledge:**

Discuss content of PHM202H.

Discuss breakdown of assessment in PHM202H

**Skills:**

Review expectations for patient care process in PHM202H including information gathering, assessment/pharmacotherapy work up and care plans.

State drug therapy problems (DTPs) using proper format.

**Attitudes:**

Students will exhibit professional behavior as expected by the Leslie Dan Faculty of Pharmacy and the University of Toronto.

**Week 2**

**Lecture Topics:** Pharmacology of Drugs for Erectile Dysfunction (ED), Benign Prostatic Hypertrophy (BPH) (1 hour) and Urinary Incontinence (UI) (1 hour)

**Workshop 1:** Urinary Incontinence (2 hours)

**Learning Objectives:**

**Knowledge:**

Discuss pharmacology of phosphodiesterase inhibitors, alprostadil, alpha blockers, 5-alpha-reductase inhibitors, oxybutynin, tolterodine, trosplug, solifenacin, and darifenacin.

Discuss normal physiology, epidemiology, presentation, risk factors and diagnosis of UI (stress/urge/overflow).

Discuss medications that may cause or exacerbate UI.

Identify relevant laboratory findings for UI.

Compare and contrast pharmacotherapy used to manage symptoms associated with UI (oxybutynin, tolerodine, trosplug, solifenacin, darifenacin).

**Skills:**

Apply pharmacology principles to therapeutics.

Use the pharmacotherapy work up to identify a given patient's drug therapy problems.

Select, apply, and analyze relevant laboratory findings.

Develop and justify care plan.

**Attitudes:**

The student will undertake assessment and care plan development activities in a manner respecting patient autonomy and the individual therapeutic goals.

The student will use inter-professional patient centered care principles to reach decisions for therapeutic alternatives (where appropriate).

The student will demonstrate respect for peers and instructors in class and workshops.

**Week 3**

**Lecture Topics:** Erectile Dysfunction (ED) (1 hour) & Benign Prostatic Hyperplasia (BPH) (1 hour)

**Workshop 2:** Erectile Dysfunction and Benign Prostatic Hyperplasia (2 hours)

**Learning Objectives:**

**Knowledge:**
Discuss pathophysiology, epidemiology, presentation, risk factors, and diagnosis of erectile dysfunction (ED) and benign prostatic hypertrophy (BPH).

Discuss medications that may cause or exacerbate ED and BPH.

Identify relevant laboratory findings for ED and BPH.

Compare and contrast pharmacotherapy used to treat ED (PDE inhibitors, alprostadil and injectable medications) and BPH (alpha blockers, 5-alpha-reductase inhibitors, PDE inhibitor)

Skills:

Select, apply, and analyze relevant laboratory findings.

Use the pharmacotherapy work up to identify a given patient's drug therapy problems.

Develop and justify care plan.

Attitudes:

The student will undertake assessment and care plan development activities in a manner respecting patient autonomy and the individual therapeutic goals.

The student will use inter-professional patient centered care principles to reach decisions for therapeutic alternatives (where appropriate)

The student will demonstrate respect for peers and instructors in class and workshops.

Week 4
Lecture Topic: Contraception (1 hour) and Menopause (1 hour)
Workshop 3: Contraception (2 hours)

Learning Objectives:

Knowledge:

Discuss normal physiology of GnRH/LH/FSH axis and menstrual cycle.

Identify relevant laboratory findings.

Discuss normal physiology, epidemiology, presentation, risk factors, and diagnosis of menopause.

Discuss medications that may cause or exacerbate menopause or its symptoms.

Compare and contrast pharmacotherapy used to manage symptoms associated with menopause (hormonal, non-hormonal and non-pharmacologic therapies).

Compare and contrast pharmacologic and non-pharmacologic methods of contraception.

Discuss emergency contraceptive and ethical issues arising in the provision of emergency contraception.
Skills:
Select, apply, and analyze relevant laboratory findings.

Use the pharmacotherapy work up to identify a given patient's drug therapy problems.

Develop and justify a care plan.

Attitudes:
The student will undertake assessment and care plan development activities in a manner respecting patient autonomy and the individual therapeutic goals.

The student will use inter-professional patient centered care principles to reach decisions for therapeutic alternatives (where appropriate).

The student will demonstrate respect for peers and instructors in class and workshops.

Week 5
Lecture Topic: Pharmacology of Thyroid/Diabetes medications (1 hour)
Workshop 4: Menopause (2 hours)

Learning Objectives:
Knowledge:
Discuss pharmacology of metformin, sulfonylureas, meglitinides, glitazones, incretin-based therapy, acarbose and insulin.

Discuss the pharmacology of steroids.

(see knowledge related to menopause for workshop)

Skills:
Apply pharmacology of diabetes and steroid medications to therapeutics.

Select, apply and analyze relevant laboratory findings.

Use the pharmacotherapy work up to identify a given patient's drug therapy problems.

Develop and justify a care plan.

Attitudes:
The student will undertake assessment and care plan development activities in a manner respecting patient autonomy and the individual therapeutic goals.

The student will use inter-professional patient centered care principles to reach decisions for therapeutic alternatives (where appropriate).

The student will demonstrate respect for peers and instructors in class and workshops.
**Week 6**
Lecture Topic: No lecture (Thanksgiving)
Workshop: No workshop
Learning Objectives: N/A

**Week 7**
Lecture Topic: Thyroid and corticosteroids (includes cases)

Workshop: No workshop (midterm)

**Learning Objectives:**

**Knowledge:**
Discuss pathophysiology, epidemiology, presentation, risk factors and diagnosis of thyroid disorders.
Discuss medications that may cause or exacerbate thyroid disorders.
Identify relevant laboratory findings and treatment targets.
Compare and contrast pharmacotherapy used to treat hyper- and hypothyroidism. (levothyroxine, methimazole, propylthiouracil)
Identify the various actions of steroids on the body.
Discuss rationale for steroid tapering and tapering regimens.
Discuss steroid replacement during physiologic stress.
Discuss implications of using drugs in pregnant, geriatric and pediatric patients.

**Skills:**
Select, apply and analyze relevant laboratory findings.
Develop and justify a care plan.

**Attitudes:**
The student will undertake assessment and care plan development activities in a manner respecting patient autonomy and the individual therapeutic goals.
The student will use inter-professional patient centered care principles to reach decisions for therapeutic alternatives (where appropriate).
The student will demonstrate respect for peers and instructors in class and workshops.
Week 8
Lecture Topic: Diabetes – Type 1 diabetes, insulin and complications
Workshop Topic: no workshop
Learning Objectives:

Knowledge:
Discuss presentation, risk factors and diagnosis of diabetic ketoacidosis, neuropathy, gastroparesis, and retinopathy.

Discuss medications that may cause or exacerbate the above conditions.

Identify relevant laboratory findings and treatment targets.

Explain relevant diabetes self-care counselling including hypoglycemia treatment, sick day management, alcohol and blood glucose levels, frequency of self-monitoring of blood glucose, hypoglycemia and driving safety, foot care, diabetes and exercise.

Compare and contrast pharmacotherapy used to treat these conditions: DKA (insulin), neuropathy (tricyclic antidepressant, anticonvulsants, duloxetine, opioids), gastroparesis (metoclopramide, domperidone, erythromycin).

Summarize general treatment of retinopathy.

Discuss pathophysiology, epidemiology, presentation, risk factors, and diagnosis of type 1 diabetes.

Compare and contrast pharmacotherapy (insulin products) used to treat type 1 diabetes.

Compare and contrast the advantages and disadvantages of various injection regimens and insulin pump therapy for type 1 diabetes.

Discuss implications of using insulin in pediatric and pregnant patients with type 1 diabetes.

Discuss implications of using medications for treatment of diabetes complications in geriatric patients.

Skills:
Select, apply and analyze relevant laboratory findings.

Use the pharmacotherapy work up to identify a given patient's drug therapy problems

Develop and justify care plans.

Counsel and adapt diabetes self-care plans specific to complications - including hypoglycaemia treatment, sick day management, alcohol and blood glucose levels, frequency of SMBG, hypoglycaemia and driving safety, foot care, diabetes and exercise, non-pharmacologic management of diabetes.

Initiate and alter insulin regimens based on blood glucose readings for patients with type 1 diabetes.

Attitudes:
The student will undertake assessment and care plan development activities in a manner respecting patient autonomy and the individual therapeutic goals.

The student will use inter-professional patient centered care principles to reach decisions for therapeutic alternatives (where appropriate)

The student will demonstrate respect for peers and instructors in class, workshops and small group seminars.

**Week 9**

**Lecture Topic:** Diabetes: Type 2 diabetes: pathophysiology and treatment

**Workshop topic:** no workshop

Small Group seminar – 3 hours

**Learning Objectives:**

**Knowledge:**

Discuss pathophysiology, epidemiology, presentation, risk factors, and diagnosis of type 1 diabetes, type 2 diabetes, and metabolic syndrome/prediabetes.

Discuss medications that may cause or exacerbate diabetes and its signs/symptoms.

Identify relevant laboratory findings and treatment targets for diabetes.

Compare and contrast pharmacotherapy used to treat type 2 diabetes (metformin, sulfonylureas, meglitinides, glitazones, incretin-based therapy, acarbose, weight loss agents, insulin, others).

Discuss implications of using drugs in pregnant, geriatric and pediatric patients.

Discuss non-pharmacologic management of type 2 diabetes.

Review select trials for medications in type 2 diabetes.

**Skills:**

Select, apply and analyze relevant laboratory findings.

Use the pharmacotherapy work up to identify a given patient's drug therapy problems

Develop and justify a care plan for a diabetes patient.

Initiate and alter insulin regimens based on blood glucose readings for patients with type 2 diabetes.

Demonstrate the ability to critique and interpret results from observational studies, randomized controlled trials and meta-analyses.

**Attitudes:**

The student will undertake assessment and care plan development activities in a manner respecting patient autonomy and the individual therapeutic goals.
The student will use inter-professional patient centered care principles to reach decisions for therapeutic alternatives (where appropriate).

The student will demonstrate respect for peers and instructors in class and workshops.

**Week 10**  
**Lecture Topic:** Pharmaceutics of oral dosage forms (1 hour)  
**Workshop 5:** Insulin (2 hours)

**Learning Objectives:**

**Knowledge:**

Discuss the pharmaceutics of regular solid oral tablets/capsules.

(for insulin workshop see previous week)

**Skills:**

Select, apply and analyze relevant laboratory findings.

Demonstrate ability to gather information using a virtual interactive case.

Use the pharmacotherapy work up to identify a given patient's drug therapy problems.

Develop and justify care plans.

Initiate and alter insulin regimens based on blood glucose readings for patients with type 1 diabetes.

**Attitudes:**  
The student will undertake assessment and care plan development activities in a manner respecting patient autonomy and the individual therapeutic goals.

The student will use inter-professional patient centered care principles to reach decisions for therapeutic alternatives (where appropriate)

The student will demonstrate respect for peers and instructors in class and workshops.

**Week 11**  
**Lecture Topic:** Nephrology: Acute kidney injury, drug causes of nephrotoxicity, assessment of renal function, drug dosing in renal impairment.  
**Workshop** Optional workshop (review of midterm exam)  
**Learning Objectives:**

**Knowledge:**

Describe the structure and function of the kidney.

Discuss pathophysiology, epidemiology, presentation, risk factors, and diagnosis of acute kidney injury.

Describe the mechanisms of drug induced acute kidney injury.
Describe the advantages, assumptions and limitations of various methods used to estimate renal function including Cockcroft-Gault, MDRD, CKD-epi, inulin clearance, and 24-hour urine collection.

Identify relevant laboratory findings and treatment targets.

Summarize prevention strategies and management of acute kidney injury.

Describe the difference in renal handling of drugs for pediatric, geriatric and pregnant patients compared to the general population.

Describe the effect of renal impairment on absorption, distribution, metabolism, and elimination of drugs.

List common medications with significant renal elimination and identify important patient/drug characteristics to consider when adjusting the dosage for patients with renal impairment.

List common medications associated with nephrotoxicity/acute kidney injury.

Skills:

Select, apply and analyze relevant laboratory findings.

Calculate and interpret different methods of estimating renal function (Cockcroft-Gault, MDRD, 24 hour urine collection).

Use the pharmacotherapy work up to identify a given patient's drug therapy problems.

Develop and justify a patient care plan.

Recommend appropriate medication therapy, dose and duration based on a given patient’s degree of renal impairment.

Attitudes:

The student will undertake assessment and care plan development activities in a manner respecting patient autonomy and the individual therapeutic goals.

The student will use inter-professional patient centered care principles to reach decisions for therapeutic alternatives (where appropriate)

The student will demonstrate respect for peers and instructors in class and workshops.

Week 12
Lecture Topic: Nephrology: Chronic kidney disease (CKD) & renal replacement therapy (2 hours)
Workshop 6: Nephrology Cases (2 hours)

Learning Objectives:

Knowledge: Define and classify the stages of chronic kidney disease.

Discuss pathophysiology, epidemiology, presentation, risk factors, and diagnosis of chronic kidney disease.
Discuss medications that may exacerbate or worsen CKD.

Summarize treatment strategies to prevent or slow the progression of chronic kidney disease/proteinuria (ACE inhibitors, angiotensin receptor blockers, calcium channel blockers)

Identify relevant laboratory findings and treatment targets.

List the indications for renal replacement therapy.

Discuss the principles of dialysis, available dialysis modalities (hemodialysis, peritoneal dialysis, continuous renal replacement therapy) and the implications on drug therapy.

Summarize the benefits and risks of kidney transplantation.

Discuss common conditions arising from CKD (ie. anemia, bone mineral disorders) and their management.

**Skills:**

Identify and use common secondary references to source information on pharmacokinetics and dosing of medications for patients with chronic kidney disease and/or on dialysis.

Demonstrate ability to gather information from a virtual interactive case.

Interpret pharmacokinetic variables used to assess renal elimination of drugs.

Adjust drug dosages for varying severity of renal impairment and for dialysis.

Calculate the dose/interval of selected medications for patients with reduced renal function and for dialysis.

Use the pharmacotherapy work up to identify a given patient's drug therapy problems.

Develop and justify care plans.

**Attitudes:**

The student will undertake assessment and care plan development activities in a manner respecting patient autonomy and the individual therapeutic goals.

The student will use inter-professional patient centered care principles to reach decisions for therapeutic alternatives (where appropriate)

The student will demonstrate respect for peers and instructors in class, workshops and small group seminars.

**Week 13**

**Lecture Topic:** Integrated cases (1 hour)

**Workshop 7:** Integrated cases (2 hours)

**Learning Objectives:**

**Knowledge:**

Review of topics from midterm.
Discuss strategies to integrate care plans with multiple disease states and multiple DTPs.

**Skills:**

Use the pharmacotherapy work up to identify a given patient's drug therapy problems.

Develop and justify care plans.

**Attitudes:**

The student will undertake assessment and care plan development activities in a manner respecting patient autonomy and the individual therapeutic goals.

The student will use inter-professional patient centered care principles to reach decisions for therapeutic alternatives (where appropriate)

The student will demonstrate respect for peers and instructors in class, workshops and small group seminars.

### 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>
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</thead>
<tbody>
<tr>
<td>☒ Assignment</td>
<td>Erectile Dysfunction Benign Prostatic Hyperplasia Urinary Incontinence Contraception Menopause Pharmacotherapy work up and Care plan</td>
<td>MCQ + written (pharmacotherapy work up, care plan and short answer)</td>
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<tr>
<td>☐ Assignment</td>
<td>Thyroid Diabetes Nephrology Pharmacotherapy work up and Care plan</td>
<td>MCQ + written (pharmacotherapy work up, care plan and short answer)</td>
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<tr>
<td>☒ Assignment</td>
<td>Diabetes</td>
<td>Case Discussion (Small group seminar)</td>
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<tr>
<td>☒ Assignment</td>
<td>Workshops 1-7</td>
<td>Oral Care Plans (7.5%) Pharmacy Care Plans-write up (7.5%)</td>
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*Expectation for pass grades for all Pharmacy courses is 60%*

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

Written pharmacotherapy work ups and Care plan assignments for selected students are due at the start of the designated workshop. Late assignments are not accepted and will be given a grade of 0%. 
10. Policy and procedure regarding missed assignments/examinations/laboratories:

Students who fail to submit work up/care plan assignments by the specified due date/time will receive a mark of 0%. Students who have a valid petition for a missed assignment will be given a subsequent assignment to complete.

Students who miss a workshop where they are assigned to participate orally will receive a mark of 0%. Students who have a valid petition for this missed assignment will be given a subsequent assignment to complete.

Students who miss the Diabetes Small Group Seminar will receive a mark of 0%. Students with a valid petition for this missed assignment will be given a make-up assignment to complete.

Students who miss the midterm exam with a valid petition will be eligible for a make-up midterm exam. Students will miss the final exam with a valid petition will be eligible for a make-up final exam. Note that make up exams may not be the same format as the original exams.

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.