Course Outline and Syllabus for Students

Name: Debra Sibbald

Course Number: PHM201H1

Course Title: Pharmacotherapy 2 Dermatology / EENT

Course Description:

Dermatology and Eye, Ear, Nose, and Throat (EENT) Topics in Pharmacotherapy is the second in a series of courses taught over three years which will provide the required knowledge, skills, attitudes and behaviours to effectively manage patients’ drug therapy within this content domain. This course will build on content and skills from General Medicine I and Medication Therapy I. In addition to covering selected therapeutic topics relating to Dermatology and EENT, the course will incorporate relevant schema recognition, pathophysiology, pharmacology, clinical pharmacokinetics, pharmaceutics and evidence-based authoritative sources of best practice pharmacotherapy. Principles of drug therapy in special populations and in practice contexts ranging from self-care to emergency care will be addressed. Knowledge building classroom and online designs and teaching methodologies will vary to address recognized learning styles, including interactive instructive teaching with audience response meters, progressing to in-depth Socratic discussions of integrated evolving cases using small student panels. It will prepare students to apply these principles to patient care in the concurrent Medication Therapy Management Course and the other Pharmacotherapy courses.

1. Course Learning Objectives:

During and in completion of this course, students will have achieved the following level of learning objectives:

*Introductory* (knowledge and comprehension of concepts, definitions) – weeks one through five

*Intermediate* application of concepts to simple situations progressing to advanced application of concepts to more complex situations with ability to synthesize and evaluate - weeks six through thirteen

Knowledge

1. Discuss, for the relevant conditions diseases or therapeutic conditions, the etiology, pathophysiology, epidemiology (allergic and non-allergic), clinical presentation (acute and chronic), risk factors and natural history (prognosis, consequences, complications).

2. Identify the appropriate (laboratory, clinical biochemistry, pathology, histology, microbiology, medical imaging findings) as related to the clinical findings and to the diagnosis.

3. Compare and contrast the relevant (available, investigational, complementary and alternative and emerging) classes of agents used for the selected diseases or therapeutic conditions based on the following criteria: indications, mechanism of action, mechanism of resistance, pharmacokinetics, pharmacodynamics, pharmacogenomics, adverse effects, contraindications, drug interactions (drug-drug, drug-food, drug-laboratory), convenience, cost, onset of action, formulations, stability, sterility.

4. Determine current or potential drug therapy problems for an individual patient.

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

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

7. Justify the proposed interventions of the care plan to meet the stated goals of therapy

8. Evaluate the quality, accuracy, and completeness of the care plan.
9. Select relevant data from: review of systems, laboratory tests, microbiology, medical imaging, (individual topics should have appropriate diagnostic and laboratory tests).

10. Apply relevant findings from: ROS, laboratory tests, microbiology, medical imaging (individual topics should have appropriate diagnostic and laboratory tests) to determine actual and potential drug therapy needs.

11. Synthesize relevant information from subjective and objective sources (ROS, medical imaging, diagnostic test, biochemical markers, microbiology; list all the objective findings) to determine drug therapy problems, urgency, and priority for a given clinical situation

**Skills**

1. Identify, prevent and solve drug-therapy problems related to relevant diseases or therapeutic conditions.

2. Utilize and adapt the patient care process as a systematic approach.

3. Apply problem-based learning techniques to simulated case studies involving role-playing

4. Discuss relevant issues in establishing a therapeutic relationship with a patient.

5. Derive and assess pertinent information in the patient's history including medical conditions, history of past conditions, family history, psychosocial history, allergies, medications, pregnancy, signs and symptoms.

6. Educate the patient regarding prevention and treatment options.

7. Develop a monitoring plan to resolve or prevent further drug therapy problems.

8. Apply an appropriate plan for follow-up of the patient progress.


10. Apply special techniques and appropriate communication skills with patients who may have special needs: geriatric, pediatric, hard of hearing, blind, illiterate, embarrassed, shy, talkative, angry, different language, culturally diverse.

11. Discuss moral, ethical and legal responsibilities of the practicing pharmacist in addition to social issues associated with these conditions.

12. Demonstrate sensitivity to and appreciation of diverse cultural attitudes and behaviours.

**Attitudes/Values**

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

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

3. The student will demonstrate respect and cooperation in class functioning.

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

The knowledge, skills and behaviours important in optimally managing patients with a variety of dermatologic and EENT conditions, is important for competency as a pharmacist practitioner. These conditions are commonly encountered in a variety of practice contexts. This course will continue to develop the knowledge, skills, and attitudes introduced in General Medicine 1 and will serve as an important foundation for other Pharmacotherapy and Medication Therapy Management courses.

3. **Pre-requisites:**

   On-line coursework components: Patient Care Process, Jurisprudence, Calculations, Language of Medicine
4. Statement of agreement from course coordinators of courses for which this course is a pre-requisite:

5. Co-requisites: (for the current and subsequent year)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHM 205 H1</td>
<td>MTM II Medication Therapy Management</td>
</tr>
<tr>
<td>PHM 242H1</td>
<td>Microbiology of Infectious Diseases</td>
</tr>
<tr>
<td>PHM202H1</td>
<td>Pharmacotherapy 3: Endocrinology, Nephrology and Urology</td>
</tr>
<tr>
<td>PHM230H1</td>
<td>Physical Assessment / Health Assessment for Pharmacists</td>
</tr>
<tr>
<td>PHM241H1</td>
<td>Topics in Pharmaceutical Quality and Clinical Laboratory Medicine.</td>
</tr>
</tbody>
</table>

6. Statement of agreement from coordinators of courses for which this course is a co-requisite:

7. Course Contact Hours and Teaching Methodologies:

<table>
<thead>
<tr>
<th>Methodology</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Didactic (lecture)</td>
<td>17</td>
</tr>
<tr>
<td>Large group problem-based or case-based learning</td>
<td>22</td>
</tr>
<tr>
<td>Large Group Size</td>
<td>Varies: 4x 60 or 240 Persons</td>
</tr>
<tr>
<td>Laboratory or Simulation</td>
<td>n/a</td>
</tr>
<tr>
<td>Workshop/Small Group</td>
<td></td>
</tr>
<tr>
<td>Small Group Size – Panels</td>
<td>15</td>
</tr>
<tr>
<td>Experiential</td>
<td>n/a</td>
</tr>
<tr>
<td>On-line</td>
<td></td>
</tr>
<tr>
<td>Other (please specify)*</td>
<td>Hours</td>
</tr>
</tbody>
</table>

* Other specific information:
- Use of hand-held audience response meters (iClickers) each session
- Practice cases for application of content weeks first half of semester: independent study or tutorial

Total course contact hours: 39 hours

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

Review learning objectives + prepared materials (3 – 7 hrs/week), higher during week of case discussions

9. Course Coordinators and contact information:

Dr. Debra Sibbald 416-978-0842 debra.sibbald@utoronto.ca
Dr. Andrea Narducci andrea.narducci@utoronto.ca

10. Course Instructors and contact information:

11. Required Resources/Textbooks/Readings:


12. Recommended Resources/Textbooks/Readings:
13. Topic Outline/Schedule: For each, indicate level of knowledge, skills and attitudes learning objectives

**Dermatology**

<table>
<thead>
<tr>
<th>Topic/Lesson Objectives:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Introduction to PHM 201H1</td>
</tr>
<tr>
<td>• Introduction to Dermatology:</td>
</tr>
<tr>
<td>o Definitions</td>
</tr>
<tr>
<td>o Structure / function</td>
</tr>
<tr>
<td>o Lesion Morphology/terms, arrangement, colour; morphological groups</td>
</tr>
<tr>
<td>o Diagnostic tools common to dermatology</td>
</tr>
<tr>
<td>o Identification of important data in dermatologic history</td>
</tr>
<tr>
<td>• Topical Vehicles (Semisolids, Powders, Suspensions, Tinctures / Dressings Active and Impregnated - Categories/ Formulation &amp; Compounding issues)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Preparation/Readings: Relevant chapter in DiPiro and PSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>All relevant general course knowledge, skills and attitudes learning objectives at an introductory level</td>
</tr>
</tbody>
</table>

**Learning Objectives**

- Discuss the normal skin in terms of its layers and important cell types
- Take a dermatologic history
- Use a stepwise approach to the history taking of a dermatology patient
- Use appropriate terminology for describing cutaneous conditions through the use of
  - Primary morphology
  - Secondary morphology
  - Morphological groups
- Recognize and distinguish between
  - Dermatitis disorders
  - Papulosquamous disorders
  - Vesiculobullous disorders
  - Aceniform disorders
- Recognize and describe the differences between topical vehicles
- Recognize and assess formulation and compounding issues
- Apply a problem-based approach to evaluate issues in typical topical formulations
- Assess formulation for physician’s intent.
- Identify impact of compounding techniques on patient’s outcomes
- Identify importance of record keeping
- Identify importance of vehicle/minor ingredients to patient’s skin condition

**Topic/Lesson Objectives:**

- **Drug Induced Skin Reactions** – most common types
  - fixed drug, pigmentation, urticaria, exanthem, lichenoid, erythema multiforme, SJS, TEN, alopecia plus DDx
  - DI acne, photo, contact, etc
- **Dermatitis:** 1st of 2 sessions
  - Definitions and Types (including asteatotic, nummular, stasis, dyshidrotic, exfoliative)
  - Followed by separate sessions on the most common CD, DD, AD, SD:
    - Contact Dermatitis: allergic and irritant; acute and chronic (* most common allergens)
    - Diaper Dermatitis: allergic and irritant and candidiasis

<table>
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<th>Preparation/Readings: Relevant chapter in DiPiro and PSC</th>
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<tr>
<td>All relevant general course knowledge, skills and attitudes learning objectives at an introductory level</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Learning Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describe a process for approaching a drug adverse reaction in skin</td>
</tr>
<tr>
<td>2. Recognize signs &amp; symptoms of six common skin reactions due to OTCs</td>
</tr>
<tr>
<td>• acne, hives, photosensitivity, fixed drug reactions, pigmentation, petechiae</td>
</tr>
<tr>
<td>3. Identify top drugs which most commonly cause these reactions; and suspected mechanisms</td>
</tr>
<tr>
<td>4. Determine patient management: whether to treat or refer</td>
</tr>
</tbody>
</table>
### Week 3

**Topic/Lesson Objectives:**
- **Dermatitis:** 2nd of 2 sessions
  - Atopic Dermatitis: acute, chronic; pediatric, adolescent, adult; Immune therapy
  - Seborrheic Dermatitis
  - Photosensitivity: Toxic and Allergic; Acute and Chronic; Disease related vs drug induced

**Preparation/Readings:** Relevant chapter in DiPiro and PSC

All relevant general course knowledge, skills and attitudes learning objectives at an introductory level

**Learning Objectives:**
- Define dermatitis
- Recognize dermatitis
- Describe, compare and contrast types of dermatitis

### Week 4

**Topic/Lesson Objectives:**
- Selected Dermatological Infections and Infestations:
  - Infestations:
    - Lice
    - Scabies
    - Insect Bits And Stings: Non-allergic and Allergic
  - Infections:
    - Fungal (Athlete’s Foot); Acute / Chronic; Candidiasis
    - Viral (Plantar Warts); Differentiate from Corns / Calluses

**Preparation/Readings:** Relevant chapter in DiPiro and PSC

All relevant general course knowledge, skills and attitudes learning objectives at an introductory level

**Learning Objectives:**
- Describe the epidemiology of dermatological infections and infestations.
- Discuss the etiology of dermatological infections and infestations.
- Explain the pathophysiologic mechanisms underlying dermatological infections and infestations:
- Describe the clinical presentation of dermatological infections and infestations and differentiate between subjective symptoms and objective signs.

### Week 5

**Topic/Lesson Objectives:**
- Acne
- Psoriasis

**Preparation/Readings:** Relevant chapter in DiPiro and PSC

All relevant general course knowledge, skills and attitudes learning objectives at an introductory level

**Learning Objectives:**
- Describe the epidemiology of acne vulgaris / psoriasis
- Discuss the etiology of acne vulgaris / psoriasis and other types of acne / psoriasis variants.
- Explain the pathophysiologic mechanisms underlying acne vulgaris psoriasis and its variant forms.
- Describe the clinical presentation of acne vulgaris / psoriasis and other types of acne / psoriasis, and differentiate between subjective symptoms and objective signs.
## Week 6

**Topic/Lesson Objectives:**
- Photoaging and Skin Neoplasms (& related risks)
- Acute (Burns) and Chronic Wounds
- Practice Case Application: Black Box Challenges and Panels
  - First aid/ Insect bites

**Preparation/Readings:** Relevant chapter in DiPiro and PSC

All relevant general course knowledge, skills and attitudes learning objectives at an *intermediate* level
- Photoaging and Neoplasm
- Wound Care

**Learning Objectives**
- Define photoaging and neoplastic lesions
- Recognize photoaging and neoplastic lesions
- Describe, compare and contrast types of photoaging and neoplastic lesions
- Describe prevention and treatment of photoaging and neoplastic lesions

## Week 7

**Topic/Lesson Objectives:**
- Practice Case Application: Black Box Challenges and Panels
  - Dermatitis: Atopic dermatitis/photo
  - Scalp conditions: Lice/scabies/ Seborrhea

**Preparation/Readings:** Relevant chapter in DiPiro and PSC

All relevant general course knowledge, skills and attitudes learning objectives at an *intermediate* level: Practice panel

**Learning Objectives**

## Week 8

**Topic/Lesson Objectives:**
- 2 Integrated Dermatology Cases: Panels

**Preparation/Readings:** Relevant chapter in DiPiro and PSC

All relevant general course knowledge, skills and attitudes learning objectives at an *intermediate* level

## Week 9

**Topic/Lesson Objectives:**
- Integrated Dermatology Cases: Panels

**Preparation/Readings:** Relevant chapter in DiPiro and PSC

All relevant general course knowledge, skills and attitudes learning objectives at an *intermediate* level

## Week 10

**Topic/Lesson Objectives:**
- Integrated Dermatology Cases: Panels

**Preparation/Readings:** Relevant chapter in DiPiro and PSC

All relevant general course knowledge, skills and attitudes learning objectives at an *intermediate* level
Week 11

**Topic/Lesson Objectives:**
- Introduction to basic concepts, risks, complications (didactic)
- Macular degeneration
- Glaucoma

**Preparation/Readings:** Relevant chapter in DiPiro and PSC

All relevant general course knowledge, skills and attitudes learning objectives at an introductory level

Week 12

**Topic/Lesson Objectives:**
- Allergic Rhinitis (case panel)
- Cough and Cold (case panel)

**Preparation/Readings:** Relevant chapter in DiPiro and PSC

All relevant general course knowledge, skills and attitudes learning objectives at an introductory level

Week 13

**Topic/Lesson Objectives:**
- Allergic Conjunctivitis (case panel)
- Otitis Externa and Otitis Media (case panel)

**Preparation/Readings:** Relevant chapter in DiPiro and PSC

All relevant general course knowledge, skills and attitudes learning objectives at an introductory level

Learning outcomes and Learning Objectives for Case Panels:

**Integrated Case Learning outcomes:**

1. Design a monitoring plan for a patient with an appropriate combination of medication.
2. Compare and contrast the literature that supports the use of single agent vs combination agents vs progression to multiple therapies in the maintenance of control.
3. Explain how medications affect resolutions of signs and symptoms.
4. Explain the goals of therapy in the management of varying stages. What medications are drugs of choice to achieve these goals.
5. Develop a care plan for a patient.
6. Be able to manage a patient that has experienced drug-induced reaction or a side effect from medication.

**Integrated Case Panel learning objectives:**

1. Identify diagnostic considerations in the assessment and differential diagnosis.
2. Describe general approaches to treatment. Summarize how various drug and nondrug measures are applied in a general perspective.
3. Discuss desirable outcomes and priorities.
4. Identify appropriate nondrug measures.
5. Discuss pharmacologic treatment. State drug treatments of first choice according to published guidelines or treatment protocols. Compare and contrast general information regarding efficacy and safety about currently accepted approaches to treatment.
6. Analyze drug class information based on interpreting details of pharmacology/mechanism of action with respect to pathophysiology. Interpret pharmacokinetic considerations. Compare and contrast efficacy, adverse effect profile of drug classes or individual agents, drug–drug and drug–food interactions and dosing and administration issues.
7. List the factors that would guide selection of a specific therapy for an individual patient. Select an appropriate treatment regimen for a patient based on patient-specific data.
8. Identify alternate drug treatments and recommend when they would be appropriate for a patient based on patient-specific data.
9. List the factors that would guide selection of therapy for a special population patient when appropriate.
10. Discuss pharmacoeconomic considerations of long-term therapy when relevant.
11. Recommend an appropriate duration of therapy based on current symptomatology and historical data.
12. Formulate a monitoring plan for a patient on a given therapy regimen based on patient-specific information and the prescribed regimen.
13. List the factors affecting adherence for a patient on therapy.
14. Formulate appropriate counseling information to be provided a patient on therapy, given patient-specific information and the prescribed regimen.

14. Assessment Methodologies Used:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Learning Objectives</th>
<th>Assessment Method</th>
<th>When</th>
<th>Percentage of Course Grade</th>
<th>Group Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment 1:</td>
<td>All relevant for weeks 1-7</td>
<td>*Multiple Choice Exam</td>
<td>After Week Seven</td>
<td>50.0 %</td>
<td></td>
</tr>
<tr>
<td>Assessment 2:</td>
<td>All relevant for case panel topics</td>
<td>Case Participation Online / written documentation Care plans, etc</td>
<td>Ongoing clickers/ facilitator review</td>
<td>n/a **</td>
<td>Individualized</td>
</tr>
<tr>
<td>Assessment 3:</td>
<td>All relevant for weeks 8-13</td>
<td>*Multiple Choice Exam</td>
<td>After Week Thirteen</td>
<td>50.0 %</td>
<td></td>
</tr>
</tbody>
</table>

*As per: Medical Council Canada National Assessment Collaboration Test Committee Task Force: Best Practices in Assessment Guidelines

**Missed panel or unsatisfactory performance will result in participation in another panel scheduled at random

Expectation for pass grades for all Pharmacy courses is 60%.

15. Policy and procedure regarding make-up 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. Failure to do so will result in a mark of zero. The format of this examination or test will be at the discretion of the course coordinator, and may be a written but most likely an oral examination. If a student fails to attend 2 scheduled makeups, the exam will be completed during the supplemental exam period in August.

Missed Small/Large Group session Policy:
Students who miss a scheduled small or large group or panel session and who have a valid petition filed with the Registrar’s office will be eligible to:
   a. Attend a subsequent regularly scheduled large group session (if space is available)
   b. Complete an assignment

16. Policy and procedure regarding supplemental assignments/examinations/laboratories:

Missed Assignment Policy:
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.

Late Assignment Policy:
Assignments will not be accepted for grading after 5 late days.
### AFPC Educational Outcomes

The AFPC Educational Outcomes addressed by this course:

<table>
<thead>
<tr>
<th>Role:</th>
<th>Expectations, pharmacy graduates:</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Care Providers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2 Elicit and complete an assessment of required information to determine the patient's medication related and other relevant health needs.</td>
<td>1.2.2 obtain and evaluate relevant history from the patient, his/her chart, caregivers and other health care professionals; 1.2.3 order, retrieve and assess relevant lab tests and diagnostic assessments</td>
<td>INTERMEDIATE</td>
</tr>
<tr>
<td></td>
<td>1.3 Assess if a patient's medication-related needs are being met</td>
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<tr>
<td></td>
<td>1.3.3 determine whether a patient's medications are achieving the desired goals including consideration of efficacy and adverse effects</td>
<td>INTERMEDIATE</td>
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<tr>
<td></td>
<td>1.3.5 where appropriate, identify a patient's medication-related needs as specific medication therapy problems</td>
<td>INTERMEDIATE</td>
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<tr>
<td></td>
<td>1.3.6 determine if a patient requires additional care or services consistent with established collaborative practice agreements (see glossary)</td>
<td>INTRODUCTORY</td>
</tr>
<tr>
<td>1.4 Determine if a patient has relevant, priority health and wellness needs</td>
<td>1.4.1 recognize signs, symptoms and risk factors that relate to medical or health problems that fall into the scope of practice of other health care professionals, (including, for example, signs and symptoms of diabetes mellitus, hypertension, arthritis, stroke, cardiac disease.)</td>
<td>INTERMEDIATE</td>
</tr>
<tr>
<td></td>
<td>1.4.2 recognize signs and symptoms associated with medical emergencies</td>
<td>INTRODUCTORY</td>
</tr>
<tr>
<td></td>
<td>1.4.3 recognize problems with activities of daily living important to the patient's well-being</td>
<td>INTRODUCTORY</td>
</tr>
<tr>
<td>1.6 Develop a care plan that addresses a patient's medication-therapy problems and priority health and wellness needs</td>
<td>1.6.1 prioritize a patient's medication-related needs</td>
<td>INTERMEDIATE</td>
</tr>
<tr>
<td></td>
<td>1.6.2 establish goals of medication therapy with the patient (desired endpoints, target values and timeframes for medication therapies)</td>
<td>INTERMEDIATE</td>
</tr>
<tr>
<td></td>
<td>1.6.3 assess alternative strategies and negotiate the therapeutic option best suited to the patient</td>
<td>INTERMEDIATE</td>
</tr>
<tr>
<td></td>
<td>1.6.4 integrate the recommended therapeutic options for a patient's medication-related needs into a co-ordinated plan</td>
<td>INTERMEDIATE</td>
</tr>
<tr>
<td></td>
<td>1.6.5 determine monitoring parameters for desired therapeutic endpoints and potential adverse effect, specifying target values and start, frequency and end time-points for monitoring</td>
<td>INTERMEDIATE</td>
</tr>
<tr>
<td><strong>Communicators</strong></td>
<td></td>
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</tr>
<tr>
<td>2.1. Communicate non-verbally and verbally with others</td>
<td>2.1.4. when speaking, use organized processes and appropriate, precise expressions and vocabulary</td>
<td>INTERMEDIATE</td>
</tr>
<tr>
<td>2.2. Communicate in writing</td>
<td>2.2.1. write clearly, using organized processes and appropriate vocabulary</td>
<td>INTERMEDIATE</td>
</tr>
<tr>
<td></td>
<td>2.2.2. correctly apply the rules of syntax, grammar and punctuation</td>
<td>INTERMEDIATE</td>
</tr>
<tr>
<td><strong>Scholars</strong></td>
<td></td>
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</tr>
<tr>
<td>6.1 Demonstrate a thorough understanding of the fundamental knowledge required of pharmacists and apply this knowledge in daily practice</td>
<td>6.1.1 rationalize their recommendations and decisions with appropriate, accurate explanations and best evidence</td>
<td>INTERMEDIATE</td>
</tr>
<tr>
<td>6.2 Provide drug information and recommendations</td>
<td>6.2.3 critically analyze information including primary research articles</td>
<td>INTERMEDIATE</td>
</tr>
<tr>
<td></td>
<td>6.2.4 determine plausible solutions and select the most appropriate recommendation;</td>
<td>INTERMEDIATE</td>
</tr>
</tbody>
</table>
2. Please estimate resource implications associated with teaching methodologies to be used.

Delivery of pathophysiology / pharmacology / pharmaceutics topics
Delivery of pharmacotherapy topics
   Case panel discussions: facilitated panel group discussion (for 4 x 60 students)
Support to develop and maintain course materials on learning management software (Blackboard)
Classrooms appropriate for 60 or 240 student discussions

3. Please estimate resource implications associated with assessment methodologies to be used.

Invigilators for 2 exams
Exam graders for MCQ answer questions - 80 hrs/exam x 2 exams
Admin support for compiling assessment results
TA assessors: weeks 6-13 4 classes of 60:1-2 panel sessions per week

4. Which of the five curricular themes will be covered in this course? How will integration of these themes be achieved through teaching and assessment methods used?

Critical reasoning, Critical appraisal, Professionalism/Ethics

Approval from Theme Coordinator (name of theme coordinator):

5. Which of the following course evaluation measures will you incorporate in your course to facilitate review and iterative refinement?

<table>
<thead>
<tr>
<th>Dixon’s Levels (1-4 increasing validity)</th>
<th>Quantitative Measures</th>
<th>Qualitative Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Evaluations Forms (‘Happiness’ Index)</td>
<td>Focus groups / Interviews</td>
</tr>
<tr>
<td>2</td>
<td>Pre-testing versus Post-testing</td>
<td>Participant Surveys / Questionnaires</td>
</tr>
<tr>
<td>3</td>
<td>Change daily practice or learning habits</td>
<td>Structured Interviews</td>
</tr>
<tr>
<td>4</td>
<td>Improve Outcomes</td>
<td>Receiver Questionnaires</td>
</tr>
</tbody>
</table>

6. Please note any other relevant information for Curriculum Committee review purposes.