Course Syllabus
Spring 2017
Mondays, 5 pm – 7.40 pm, Mellon 432

Course Instructor: Khalid M. Kamal, M.Pharm, PhD
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Office Hours: By Appointment

Prerequisites: PHPR 449

Academic Credit (hours): 3

Category: Core course for MS in Pharmacy Administration, Core course for Management Track (Pharm.D)

Course Description: This course provides an overview of the role of economic evaluation in health care with a special emphasis on pharmacy-related issues. Specific areas covered will include the need for economic evaluations, different types of economic analyses, sources of data, quality-of-life valuations, assessment of utility, and current approaches to pharmacoeconomics and outcomes research. This course will incorporate lecture, readings, participatory discussions, and student presentations to accomplish these goals.

Goals: Upon completion of this course, the enrollee will be better able to:

1. Define and identify the goals of pharmacoeconomics and outcomes research.
2. Discuss the application of pharmacoeconomic evaluations in clinical practice, hospital community practice, managed care organizations, and other practice settings.
3. Compare and contrast current approaches to pharmacoeconomics and outcomes research, such as randomized controlled trials, naturalistic trials, retrospective studies, and modeling.
4. Describe the different economic analysis methods available including cost-minimization analysis, cost-benefit analysis, cost-effectiveness analysis, cost-utility analysis, cost-of-illness analysis, and cost analysis.
5. Identify the strengths and weaknesses of different economic analyses.
6. Describe and calculate the three cost-effectiveness ratios: Average cost-effectiveness ratio (ACER), Marginal cost-effectiveness ratio (MCER), and Incremental cost-effectiveness ratio (ICER).
7. Describe decision analysis techniques including decision tree models, Markov models, Monte Carlo simulation, and discrete event simulation.
8. Describe the purpose and mechanisms involved in conducting sensitivity analysis and discounting.
9. Learn basic modeling techniques using Decision Analysis software (TreeAge®).
10. Describe the concepts of quality of life (QoL), utility, and quality-adjusted life years (QALYs).
11. Evaluate the quality and usefulness of articles in pharmacoeconomic literature.
12. Develop, design, and carryout pharmacoeconomic studies.

Recommended Texts:


OR


2) Course packet and additional journal articles will be distributed in class. Students will be responsible for all readings and will be tested on their understanding of the reading materials during class discussion and in exams.

Educational Technology Requirements
Blackboard will be utilized to communicate course materials as needed.

Evaluation Methods Overview
Grading Policy: Course grade will consist of one class presentation, critical reviews of journal article, class participation, and a final paper.
Grading Scale:

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<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>91.5 - 100</td>
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<tr>
<td>A-</td>
<td>89.5 - 91.4</td>
</tr>
<tr>
<td>B+</td>
<td>87.5 - 89.4</td>
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<tr>
<td>B</td>
<td>81.5 - 87.4</td>
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<tr>
<td>B-</td>
<td>79.5 - 81.4</td>
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<tr>
<td>C+</td>
<td>77.5 - 79.4</td>
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<tr>
<td>C</td>
<td>69.5 - 77.4</td>
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<tr>
<td>D</td>
<td>60 - 69.4</td>
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<td>F</td>
<td>&lt; 60</td>
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Assignment Description
One Class Presentation (20 points): Each student group will be assigned one economic evaluation method. Two weeks prior to the scheduled presentation date, the student will find one article using that method and discuss it with the instructor. At least one week prior to the presentation, the article will be given to other students. The group will be allocated 15 minutes to present their critiques and 5 minutes for class discussion. Presentation will be evaluated by instructor (75% weight) and peers (25% weight).
Two Critical Reviews of Journal Articles (20 points): Students must critique published journal articles based on the criteria discussed in class in 300 words. One review will be group assignment and the second will be an individual assignment.

Five Case Studies (25 points): There will be about five in-class case study problems during the course. All are based on information gleaned from the pharmacoeconomic literature. The purpose of these exercises is to promote understanding of methodology by thinking about and analyzing real pharmacoeconomic problems.

Final Exam (Take home): An economic evaluation scenario consisting of multiple parts will be assigned to the students as part of the final exam (25 points).

Questions for guest speakers (5 points): Each student group has to submit one question for each invited guest speaker (5 total) to the instructor.

Class Participation (5 points)
Excellent: Shows understanding of the readings and applies concepts from readings and lectures to course activities; provides effective feedback to peers’ work. 5 points
Fair: Participates thoughtfully but shows little evidence of understanding the concepts from readings and lectures during course activities. 3 points
Poor: Attends but does not contribute ideas; gives no constructive/relevant feedback to peers. 1 point

Research Proposal (Required for Graduate Students): The student will design and submit a proposal for conducting a pharmacoeconomic study using one of the methods of economic evaluation discussed in class. The proposal will be evaluated based on the criteria for conducting an economic study (50 points).

Timeline for the Pharmacoeconomic Research Proposal

Week 3: Concept paper (5 points)
A one-page paper that briefly describes the proposed area of your study (disease, intervention, policy change, etc.). If necessary, you may change topics after this concept paper has been submitted. The purpose is to get you started on a project early in the semester.

Week 6: Background information & literature review (10 points)
This section encompasses (a) a brief literature review and (b) the proposed research plan. The literature review must establish the scientific basis of the research problem, describe previous research in the problem area, and present the gap in previous research that is being addressed by your research proposal.

Week 7: Research objectives & data sources (10 points)
This section will describe your final research objectives that you wish to achieve through your proposed study. The description must explain briefly what you intend to do and what data sources would be needed to conduct the study.

Week 11: Methods (25 points)
Submit the methods section of the research proposal. Revise previously submitted assignments. This will be your first complete draft of your paper.

Formatting
Use 1-inch margins, double-spaced lines, and a 12-point font.

References
AMA Citation Style (Refer: American Medical Association Manual of Style, 9th edition)
Class Attendance and Participation
Attendance is highly encouraged for this course and will contribute to your participation score. Participation includes contributing to class discussion and having prepared yourself to do so. Class participation is a significant portion of the course grade. Please notify the professor prior to class time in the event of an emergency that would prevent you from attending class. If a student is absent from class due to an extenuating circumstance he/she will have the opportunity to do a brief written assignment as a make-up for participation.

In-class Behavior
Students in the graduate program are expected to exhibit professional behavior at all times and the instructor endeavors to foster an environment of mutual respect and professionalism in the classroom. Disruptive behavior (loud or continuous talking, text messaging, use of cell phones, or other disruptive behaviors) will not be tolerated during class. Students are expected to be active in discussions while respecting the opinions of fellow classmates.

Course Domains, Competencies and Learning Outcomes
In accordance with the Graduate School of Pharmaceutical Sciences List of Domains, Competencies, and Learning Outcomes, the following outcomes are addressed throughout the course (and can be referenced via Blackboard):

Domain A (Conceptual): A.1.2
Domain B (Technical): B.1.1, B.2.1, B.3
Domain C (Integrative): C.1, C.2., C.3

Policy for late/missed assignments
No credit will be given for late or missed assignments; please refer to due dates described in this syllabus and discussed with course faculty. The only exception to this rule will be for ‘excused absences’ which may be obtained with authorization from the course coordinator prior to the missed session in question, or through Student Services for other circumstances (illness, emergency, etc.).

Administrative policies governing all courses
Students are required to review these policies in their entirety. Complete copies of or links to the policies may be found on the Blackboard site:

- Late/missed exams policy; Grade appeal policy; Policy on services for students with disabilities; Audio/visual recording policy; Services for students with disabilities

The Graduate School of Pharmaceutical Sciences has a long-standing commitment and adherence to academic integrity as a critical component of professional conduct. Pharmacy students are bound by the Duquesne University Academic Integrity Policy and the Mylan School of Pharmacy Code of Student Conduct.

- The Code of Student Rights, Responsibilities and Conduct
- Duquesne University Academic Integrity Policy and Procedures
- School of Pharmacy: Professional and Graduate Students ➔ Graduate Students ➔ Academic Policies and Procedures ➔ Academic Integrity

Pharmacoeconomic Evaluations: Course Syllabus
Spring 2017
Course Outline

**Date: 1/23**

**Pharmacoeconomics: Overview and International Perspective**

**Text:**
1. Drummond MF. Chapter 2.
2. Bootman JL. Chapters 1 and 2.

**Articles:**

**Date: 1/30**

**Data Sources for Economic Analysis**

**Articles:**

**Date: 2/6**

**GUEST SPEAKER: Dr. Chris Zacker, Novartis**

**Cost-Consequence Analysis**

**Articles:**

**Cost Analysis**


**Guidelines to Evaluate and Interpret Pharmacoeconomic Literature**

**Text:**
1. Bootman JL. Chapter 16
2. Drummond MF. Chapter 3.

**Article:**

**Date: 2/13**

**GUEST SPEAKER: Dr. Rich Miller, Walgreens Specialty**

**Cost of Illness**

**Text:**
1. Bootman JL. Chapter 3

**Articles:**

**Cost Minimization Analysis**

**Text:**
1. Drummond MF. Chapter 4.
2. Bootman JL. Chapter 3.

**Article:**

**Date: 2/20**

**GUEST SPEAKER: Dr. Bethanie Stein, Humana**

**Week 5**

**Cost-Benefit Analysis**

2. Bootman JL. Chapter 4.


**ARTICLE CRITIQUE # 1: Administered (Due: March 14)**

**Date: 2/27**

**STUDENT PRESENTATION Cost Benefit Analysis (Group 2)**

**Week 6**

**Cost-Effectiveness Analysis**

Text: 1. Drummond MF. Chapter 5.
2. Bootman JL. Chapter 5.


**3/6**

**SPRING BREAK**

**Date: 3/13**

**STUDENT PRESENTATION Cost Effectiveness Analysis (Group 3)**

**Week 7**

**Cost-Utility Analysis**


**Date: 3/20**

**Budget Impact Analysis**

Date: 3/27   NO CLASS APhA Annual meeting

Date: 4/3   STUDENT PRESENTATION Cost Utility Analysis (Group 4)   Week 9
Decision Analysis:

Date: 4/10   STUDENT PRESENTATION Budget Impact Analysis (Group 1)   Week 10
Decision Analysis – Making Adjustments to Decision Models

Pharmacoeconomics and Pharmacogenomics

Date: 4/17   EASTER BREAK

Date: 4/24   Week 11
Decision Analysis - Using Decision Analysis Software (TreeAge®)
Materials: Data TreeAge Manual.
Date: 4/24: FINAL EXAM (Take home)
Date: 5/2: Final Exam due; Research Project due for Graduate Students