PHRD 5025 – 62140: PHARMACOECONOMICS & OUTCOMES  
Monday/Wednesday 8:00-8:50 a.m.  
Bienville 170

I. Contact Information
Scott Baggarly, R.Ph., M.B.A., Ph.D.  
Office: Bienville 261  
Office telephone: 318-342-3020  
Email (preferred): baggarly@ulm.edu  
Office Hours: Refer to class Moodle page

Lance Nickelson, Pharm.D.  
Office: Bienville 107  
Office telephone: 318-342-3172  
Email (preferred): jnickelson@ulm.edu  
Office hours: TBA

II. Course Prerequisites
PHRD 4077 (Health Care Systems) and PHRD 5006 (Professional Pharmacy Management).

III. Course Description
Pharmacoeconomics & Outcomes. 2 cr. Introduction to the principles and tools of pharmacoeconomics and outcomes assessment that are commonly used to study the impact of pharmaceutical care services on the health and health care of a patient or community.

IV. Curricular Objectives and Outcomes
Upon completion of the course, the student should be able to meet the following College of Pharmacy Educational Outcomes and Competencies:

CO II.8 Collaborate with other healthcare professionals using appropriate effective communication in both written and oral forms.

CO II.9 Read, write, speak, listen, and use data, media, and computers to send and respond effectively to communications for varied audiences and purposes.

CO III.10 Plan, organize, direct and control pharmaceutical care systems and human, material, and financial resources utilizing management theories and practices.

CO III.11 Apply patient and population specific data, quality assurance strategies, and research processes.

CO IV.13 Define the question that needs to be answered.

CO IV.14 Distinguish among lay, professional, and scientific literature.

CO IV.15 Identify appropriate literature search engines for lay, professional and scientific literature.

CO IV.16 Explain the method of constructing an appropriate search strategy for various literature types.

CO IV.17 Evaluate literature source validity.

CO IV.18 Explain methods for systematically evaluating literature.

CO IV.19 Evaluate the appropriateness of research methodologies and statistical methods.

CO IV.20 Draw appropriate conclusions from research results.

CO IV.21 Assess the potential impact and implication of published information on current practices.

CO V.23 Collaborate with policy makers, health care providers, members of the community and administrative and support personnel to identify and resolve health problems and evaluate health policy.

CO VI.24 Identify, retrieve, understand, analyze, synthesize, and evaluate information needed to make informed, rational, and ethical decisions.

CO VI.25 Solve complex problems that require an integration of one’s ideas and values within a context of scientific, social, cultural, legal, clinical, and ethical issues.

CO VI.26 Display habits, attitudes, and values associated with mature critical thinking.

CO VII.28 Represent the profession in an ethical manner.

CO VII.29 Identify, analyze, and resolve ethical problems involved in pharmacy practice.
CO VII.31    Collaborate proactively with other health care professionals.
CO VII.33    Accept the responsibilities embodied in the principles of pharmaceutical care.

V.    Course Specific Objectives and Outcomes

Students who successfully complete the course requirements should achieve the following course objectives and outcomes:

- Interact productively in team-based activities
- Describe the rationale of pharmacoeconomic analyses
- Identify and determine relevant costs and consequences associated with pharmacy products and services
- Define the differences among cost-benefit analysis (CBA), cost-effectiveness analysis (CEA), cost-minimization analysis (CMA), and cost-utility analysis (CUA)
- Outline the steps for conducting a pharmacoeconomic analysis
- Apply decision analysis methodology
- Describe current pharmacoeconomic methods and issues
- Critique current pharmacoeconomic literature
- Describe the application of pharmacoeconomics to various pharmacy settings

VI.    Course Topics

- Basic concepts in pharmacoeconomics (determination of costs, consequences, perspectives, and terminology)
- Cost of illness
- Pharmacoeconomic analyses (cost-minimization analysis (CMA), cost-benefit analysis (CBA), cost-effectiveness analysis (CEA), and cost-utility analysis (CUA))
- Analysis techniques (discounting, sensitivity analysis, decision analysis, incremental cost analysis)
- Applied pharmacoeconomics (formulary management, drug use policies, efficient use of available technologies)
- Humanistic Outcomes including the Economic, Clinical, and Humanistic Outcomes (ECHO) model and the Donabedian model
- General and disease-specific quality of life

VII.    Instructional Methods and Activities

The course may include, but is not limited to, lecture material using PowerPoint slides, class discussions moderated by the instructor, homework and reading assignments, small group discussion, group assignments, problem-based learning, group projects/presentations, and independent study.

Active participation in class and group activities is required. Students are expected to be competent in the use of Microsoft Word (or another word processing program), Microsoft Excel, Microsoft PowerPoint, and the ULM Moodle and email systems. Lack of these competencies may place the student at a disadvantage and could adversely impact the scores on required course activities.
VIII. Evaluation and Grade Assignment

The total grade in the class will consist of the following components and percentages:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam One</td>
<td>25%</td>
</tr>
<tr>
<td>Exam Two</td>
<td>25%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25%</td>
</tr>
<tr>
<td>Analysis and Presentation of a Pharmacoeconomic Study (Group)</td>
<td>15%</td>
</tr>
<tr>
<td>Assignments (Group or Individual)</td>
<td>10%</td>
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</tbody>
</table>

Please Note:

Exams and quizzes will be administered in ExamSoft, Moodle, or in another appropriate format as determined by the instructor. After each exam has been graded and an item analysis performed, questions may be discarded or otherwise adjusted at the discretion of the course coordinator before arriving at the final grade for the activity.

The instructor reserves the right to administer unannounced quizzes throughout the semester. Points from the quizzes will be added to the assignments category and averaged as part of the final grade.

For partial points, 0.5 points and above will be rounded up and 0.4 points and below will be rounded down.

GRADING SCALE: A = 90-100%; B = 80-89%; C = 70-79%; D = 60-69%; F = Less than 60

Undergraduate mid-term grades will be posted on-line for students to view via Banner. Mid-term grades indicate a student's status at mid-semester only and do not indicate the final performance outcome of a student. Students wishing to review their exams with the instructor must do so within 2 weeks of the test date.

Any student earning a non-passing grade of “D” or “F” on an exam will be required to participate in mandatory tutoring sessions offered by the course instructor(s) until such a time that they obtain a passing average in the course.

IX. Class Policies and Procedures

At a minimum, all policies stated in the current ULM Student Policy Manual & Organizational Handbook should be followed (see http://www.ulm.edu/studentpolicy/). Additional class policies include:

A. Textbook(s) and Materials: This class has a required textbook, which is available from the SOP Resources Toolbox in Moodle.


   Other required reading material may be posted on Moodle. Students will also be expected to use the Internet to search for information.

B. Attendance Policy: Class attendance is mandatory in all pharmacy courses; attendance is taken in all class sessions. Tardiness and disruptive behavior are not tolerated. Students who are unable to attend class on time are considered absent for that day.

   Absences are unexcused unless a legitimate, validated excuse is presented to the instructor in accordance with the College of Pharmacy Excused Absence Policy, available in the student policy manual. Current College of Pharmacy policy states that students reported for accumulating more
than three unexcused absences in a course during an academic semester will be administratively dropped from the course with a "W" grade, which is counted as an “F” grade with respect to academic standards.

Any student who is not present for at least 75% of the scheduled class sessions (excused or unexcused) in any course may receive a grade of "W" if this condition occurs prior to the last day to drop a course or a grade of “F” after that date. Any University-related activity requiring an absence from class will count as an absence when determining if a student has attended 75% of class meetings.

C. Make-up Policy: Each student is expected to submit assigned coursework by the due date and to attend each examination at the date and time specified. Coursework or examinations missed due to excused absences will be rescheduled at the discretion of the instructor, and may be in ExamSoft or alternate formats as determined by the instructor. Any presentations and/or examinations that are not completed by the alternative date will be scored as a zero. Students who miss the comprehensive final exam during the scheduled time will receive an "I" for the course in accordance with University and College of Pharmacy policies and procedures.

D. Academic Integrity: Faculty and students must observe the ULM published policy on Academic Dishonesty (ULM Student Policy Manual - http://www.ulm.edu/studentpolicy/). All professional students will adhere to the standards set forth in the College of Pharmacy’s Code of Conduct, which may be found at: http://rxweb.ulm.edu/pharmacy/policies/copcodeofconduct.pdf Students are expected to work independently on examinations and assignments unless it is specifically described by the instructor as a group activity. Academic misconduct includes, but is not limited to:

- Any use of resources other than your own recollection and reasoning ability on an examination unless access to the resource is authorized by the instructor in advance.
- The inappropriate use of electronic or wireless technology (including but not limited to cell phones, PDA’s, or pagers) during an examination.
- Possessing or using any examination question previously used in this course.
- The attempt to reconstruct an examination after it is taken with the intent to share with other students.
- Sharing information about an examination with students who have not taken the exam.

Written reports must adequately reference the work of others; plagiarism is considered academic misconduct. Any student suspected of dishonesty will receive a zero (no credit) for that assignment or examination, and will be reported to the College of Pharmacy Dean’s Office with subsequent actions as per University regulations and policy.

E. Course Evaluation Policy: At a minimum, students are expected to complete the on-line course evaluation. Additional assessment opportunities may also be offered.

F. Student Services: Information concerning student services in the College of Pharmacy can be found in the College of Pharmacy Student Handbook. In particular, students should pay special attention to the College’s technical standards and policies concerning students with special needs (http://www.ulm.edu/studentpolicy/studentpolicy.pdf). Information about ULM student services, such as the Student Success Center (http://ulm.edu/cass/), Counseling Center (http://ulm.edu/counselingcenter/), and Student Health Services, is available at the following Student Services web site: http://ulm.edu/studentaffairs/

If you are having problems with emotional, social, and/or behavioral issues please call any of the mental health clinics on the ULM campus to make an appointment. All services are free to ULM students, staff, and faculty, and are strictly confidential.

- COP Office of Student and Professional Affairs: 342-3800
- ULM Counseling Center: 342-5220
The University of Louisiana at Monroe strives to serve students with special needs through compliance with Sections 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act. These laws mandate that postsecondary institutions provide equal access to programs and services for students with disabilities without creating changes to the essential elements of the curriculum. While students with special needs are expected to meet our institution's academic standards, they are given the opportunity to fulfill learner outcomes in alternative ways. Examples of accommodations may include, but are not limited to, testing accommodations (oral testing, extended time for exams), interpreters, relocation of inaccessible classrooms, permission to audiotape lectures, note-taking assistance, and course substitutions.

Title IX of the Education Amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity that receives federal funds, including federal loans and grants. Furthermore, Title IX prohibits sex discrimination to include sexual misconduct, sexual violence, sexual harassment and retaliation. If you encounter unlawful sexual harassment or gender-based discrimination, please contact Student Services at 318 342 5230 or to file a complaint, visit www.ulm.edu/titleix.

G. Emergency Procedures: Please review the emergency escape plan in the classrooms and hallways of the Bienville building. Move quickly and orderly to the appropriate stairwell and exit the building. The meeting place for this class will be the far end of the north parking lot between Bienville and Broadmoor Blvd. Under no circumstances is the elevator to be used for emergency evacuation. Any student needing assistance should notify the professor immediately. For emergencies, to contact University Police, call 1-911 from landlines and 342-5350 from cell phones.

H. Early Intervention Policy: Students scoring <70% on any exam and an overall exam average <70% (excludes quizzes, assignments, bonus, etc.) will be required to submit to the coordinator written, narrative responses to select lecture objectives that will be provided within 24 hours of the posting of their exam grade to Moodle. These objectives will be in the form of a Moodle assignment and represent unit- or lecture-level objectives to be tested upon in the next scheduled course exam.

Written responses must be submitted no later than one calendar week before the next scheduled exam. Responses must be written in complete sentences and may not be copied or pasted from any source, including class notes, treatment guidelines, textbooks, or any internet site. Submissions found to contain responses that have not been written in a student’s own words will be considered a failure to submit.

In addition, students will be required to review each failed exam’s ExamSoft-generated missed item report with the instructor responsible for each section of material. The discussion should include the student’s reasoning for the incorrect answer as well as the reason for the correct answer.

In addition to answering objectives as described above and reviewing missed item reports, first professional year students scoring <70% on any exam and having an overall exam average <70% (excludes quizzes, assignments, bonus, etc.) will meet with the the Director of Professional Affairs. Failure to submit this required assignment will result in ineligibility to remediate.

I. Discipline/Course Specific Policies: Students are to exhibit professional behavior at all times. This includes being prepared for class, being seated and quiet when class is to begin, participating actively and reliably in group activities, and communicating respectfully and articulately with others. Student integrity is an important part of professionalism. As such, a grade of zero will be assigned to any examination or assignment on which a student is found to have cheated (this includes plagiarism). Failure to adhere to University, College of Pharmacy, and class policies or Academic
Integrity will result in disciplinary action in accordance with University policy.

J. **Electronic Device Policy:** All cell phones should be turned off during class. Students should not use class time to check email or to text message. Computers may be used during class to view the slides and take notes; however, use of the Internet will not be allowed unless required for a class activity.

If a student has a need to be notified during an emergency situation while attending class, he/she should leave the telephone number of the Office of Student and Professional Affairs, 318-342-3800, with the person who may need to contact them. The use of cell phones is not allowed during examinations or quizzes. Students using cell phones during an examination or quiz will be considered to have committed an act of academic dishonesty and will be charged and brought before the committee on ethical and professional conduct.
# X. Tentative Course Schedule

## A. Contact Information:

- **Instructor:** Scott Baggarly, Ph.D.; Bienville 261; 318-342-3020; baggarly@ulm.edu
- **Office Hours:** Refer to class Moodle page

## B. Schedule: *The instructor reserves the right to adjust the schedule as needed.*

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 20</td>
<td>Wed</td>
<td>Introduction; Syllabus Information; Ch 1: Introduction to Pharmacoeconomics</td>
</tr>
<tr>
<td>Jan 25</td>
<td>Mon</td>
<td>Ch 2: Measuring and Estimating Costs</td>
</tr>
<tr>
<td>Jan 27</td>
<td>Wed</td>
<td>Ch 2: Measuring and Estimating Costs, con’t.</td>
</tr>
<tr>
<td>Feb 1</td>
<td>Mon</td>
<td>Ch 3: Critiquing Research Articles</td>
</tr>
<tr>
<td>Feb 3</td>
<td>Wed</td>
<td>Ch 4: Cost-Minimization Analysis</td>
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</tbody>
</table>

**End of Exam 1 Material**

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 8</td>
<td>Mon</td>
<td>NO CLASS—Mardi Gras Holiday</td>
</tr>
<tr>
<td>Feb 10</td>
<td>Wed</td>
<td>NO CLASS—Mardi Gras Holiday</td>
</tr>
<tr>
<td>Feb 15</td>
<td>Mon</td>
<td>EXAM 1</td>
</tr>
<tr>
<td>Feb 17</td>
<td>Wed</td>
<td>Ch 5: Cost-Effectiveness Analysis</td>
</tr>
<tr>
<td>Feb 22</td>
<td>Mon</td>
<td>Ch 5: Cost-Effectiveness Analysis, con’t.</td>
</tr>
<tr>
<td>Feb 24</td>
<td>Wed</td>
<td>Ch 6: Cost-Utility Analysis</td>
</tr>
<tr>
<td>Feb 29</td>
<td>Mon</td>
<td>Ch 6: Cost-Utility Analysis, con’t.</td>
</tr>
<tr>
<td>Mar 2</td>
<td>Wed</td>
<td>Ch 7: Cost-Benefit Analysis</td>
</tr>
<tr>
<td>Mar 7</td>
<td>Mon</td>
<td>Ch 7: Cost-Benefit Analysis, con’t.</td>
</tr>
</tbody>
</table>

**End of Exam 2 Material**

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar 9</td>
<td>Wed</td>
<td>Ch 8: Health-Related Quality of Life</td>
</tr>
<tr>
<td>Mar 14</td>
<td>Mon</td>
<td>Ch 8: Health-Related Quality of Life, con’t.</td>
</tr>
<tr>
<td>Mar 16</td>
<td>Wed</td>
<td>EXAM 2</td>
</tr>
<tr>
<td>Mar 21</td>
<td>Mon</td>
<td>Ch 9: Decision Analysis</td>
</tr>
<tr>
<td>Mar 23</td>
<td>Wed</td>
<td>Ch 9: Decision Analysis, con’t.</td>
</tr>
<tr>
<td>Mar 28</td>
<td>Mon</td>
<td>NO CLASS—Spring Break</td>
</tr>
<tr>
<td>Mar 30</td>
<td>Wed</td>
<td>NO CLASS—Spring Break</td>
</tr>
<tr>
<td>Apr 4</td>
<td>Mon</td>
<td>Ch 10: Markov Analysis</td>
</tr>
<tr>
<td>Apr 6</td>
<td>Wed</td>
<td>Ch 12: Pharmacy Services</td>
</tr>
<tr>
<td>Apr 11</td>
<td>Mon</td>
<td>Clinical Perspectives in Pharmacoeconomics (Dr. Lance Nickelson)</td>
</tr>
<tr>
<td>Apr 13</td>
<td>Wed</td>
<td>Clinical Perspectives in Pharmacoeconomics (Dr. Lance Nickelson)</td>
</tr>
<tr>
<td>Apr 18</td>
<td>Mon</td>
<td>Pharmacoeconomic Study Presentations</td>
</tr>
<tr>
<td>Apr 20</td>
<td>Wed</td>
<td>Pharmacoeconomic Study Presentations</td>
</tr>
<tr>
<td>Apr 25</td>
<td>Mon</td>
<td>Pharmacoeconomic Study Presentations</td>
</tr>
<tr>
<td>Apr 27</td>
<td>Wed</td>
<td>Pharmacoeconomic Study Presentations</td>
</tr>
<tr>
<td>May 2</td>
<td>Mon</td>
<td>Pharmacoeconomic Study Presentations</td>
</tr>
<tr>
<td>May 4</td>
<td>Wed</td>
<td>FINAL EXAM (ONLY COVERS Chapters 8, 9, 10, 12 and Dr. Nickelson’s lectures)</td>
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