Aging and Drug Use in the Elderly: PHRD 5051-42337

I. Contact Information – Course Coordinator
Michelle Zagar, Pharm.D., M.Ed.
Clinical Associate Professor
Office (preferred): Bienville 113
Office Hours: Mon 1 – 4 pm; Tu 8 – 10 am; Wed 2 – 3 pm; Th 2 – 4 pm; Fri 8 – 10 am
Office Phone: 342-3173
Email: zagar@ulm.edu

II. Course Prerequisites/Corequisites
PHRD 4027, PHRD 4029, PHRD 4035

III. Course Description
2 cr. An examination of normative and pathological aging and their effects on drug use and response in the aged population.

IV. Curricular Objectives and Outcomes
Domain 1 – Foundational Knowledge
1.1 Learner (Learner) – Develop, integrate, and apply knowledge from the foundational sciences (i.e., pharmaceutical, social/behavioral/administrative, and clinical sciences) to evaluate the scientific literature, explain drug action, solve therapeutic problems, and advance population health and patient-centered care.

Domain 2 – Essentials for Practice and Care
2.1 Patient-centered care (Caregiver) – Provide patient-centered care as the medication expert (collect and interpret evidence, prioritize, formulate assessments and recommendations, implement, monitor and adjust plans, and document activities.)
2.3 Health and wellness (Promoter) - Design prevention, intervention, and educational strategies for individuals and communities to manage chronic disease and improve health and wellness.
2.4. Population-based care (Provider) - Describe how population-based care influences patient-centered care and influences the development of practice guidelines and evidence-based best practices.

Domain 3 – Approach to Practice and Care
3.1. Problem Solving (Problem Solver) – Identify problems; explore and prioritize potential strategies; and design, implement, and evaluate a viable solution.
3.3. Patient Advocacy (Advocate) - Assure that patients’ best interests are represented.
3.5. Cultural sensitivity (Includer) - Recognize social determinants of health to diminish disparities and inequities in access to quality care.
3.6. Communication (Communicator) – Effectively communicate verbally and nonverbally when interacting with an individual, group, or organization.

Domain 4 – Personal and Professional Development
4.1. Self-awareness (Self-aware) – Examine and reflect on personal knowledge, skills, abilities, beliefs, biases, motivation, and emotions that could enhance or limit personal and professional growth.
4.4 Professionalism (Professional) – Exhibit behaviors and values that are consistent with the trust given to the profession by patients, other healthcare providers, and society.

V. ACPE Appendix 1 Required Elements
A. Biomedical Sciences
1. Human Physiology – Homeostatic function and normal response reactions across the lifespan of non-diseased human cells, organs, and systems.
2. Pathology/Pathophysiology – Basic principles, mechanisms, functional changes and metabolic sequelae of human disease impacting cells, organs, and systems.

B. Social/Administrative/Behavioral Sciences
3. Cultural Awareness – Exploration of the potential impact of cultural values, beliefs, and practices on patient care outcomes.
4. Pharmacoeconomics – Application of economic principles and theories to the provision of cost-effective pharmacy products and services that optimize patient-care outcomes, particularly in situations where healthcare resources are limited.

5. Pharmacoepidemiology – Cause-and-effect patterns of health and disease in large populations that advance safe and effective drug use and positive care outcomes within those populations.

6. Professional Communication – Analysis and practice of verbal, non-verbal, and written communication strategies that promote effective interpersonal dialog and understanding to advance specific patient care, education, advocacy, and/or interprofessional collaboration goals. Exploration of technology-based communication tools and their impact on healthcare delivery, healthcare information, and patient empowerment.


C. Clinical Sciences

8. Clinical Pharmacokinetics – Application of basic pharmacokinetic principles and mathematical models to calculate safe and effective doses of drugs for individual patients, and adjust therapy as appropriate through the monitoring of drug concentration in biological fluids.

9. Patient Assessment – Evaluation of patient function and dysfunction through the performance of tests and assessments leading to objective (e.g., physical assessment, health screening, and lab data interpretation) and subjective (patient interview) data important to the provision of care.

10. Patient Safety – Analysis of the systems- and human-associated causes of medication errors, exploration of strategies designed to reduce/eliminate them, and evaluation of available and evolving error-reporting mechanisms.

11. Pharmacotherapy – Evidence-based clinical decision making, therapeutic treatment planning, and medication therapy management strategy development for patients with specific diseases and conditions that complicate care and/or put patients at high risk for adverse events. Emphasis on patient safety, clinical efficacy, pharmacogenomic and pharmacoeconomic considerations, and treatment of patients across the lifespan.

12. Self-Care Pharmacotherapy – Therapeutic needs assessment, including the need for triage to other health professionals, drug product recommendation/selection, and counseling of patients on non-prescription drug products, non-pharmacologic treatments and health/wellness strategies.

VI. Course Specific Objectives and Outcomes

At the conclusion of this course, the student will be able to:

- Define the principles of senior care pharmacy.
- Discuss advocacy information for older adults and their caregivers related to interventions and behaviors that promote physical and mental health, nutrition, function, safety, social interactions, independence, and quality of life.
- Identify the principles and practices of safe, appropriate, and effective medication use in older adults.
- Describe biological, physical, cognitive, psychological, and social changes commonly associated with aging.
- Describe communication strategies to overcome potential sensory, language, and cognitive limitations in older adults.

VII. Course Topics

This course will focus primarily on iatrogenic and age-related causes of morbidity and mortality in the elderly, including pathophysiological aging, medication nonadherence, falls, inappropriate medication use, mental health issues, cognitive impairment, and other age-related diseases with special considerations. Additional topics to be covered in this course include geriatric assessment, communicating with the elderly, and death and dying.

VIII. Instructional Methods and Activities

Most course topics will be introduced using didactic lectures. Students will also have the opportunity to interact with course material through a variety of individual and group assignments, both in-class and out-of-class, including assigned readings, videos, discussions, games, oral presentations, reflective writing, and other hands-on activities.

IX. Evaluation and Grade Assignment

- In general, memorization and regurgitation of information will NOT be emphasized. Rather, evaluation will largely be based on assessing your understanding of concepts and principles, your ability to apply this understanding in intelligent and reasonable ways, and higher order abilities: analysis, evaluation, and synthesis.
• ExamSoft may be used to administer exams; therefore, all students are required to have access to the most current version of the software.
• The use of programmable calculators and ALL electronic devices capable of storing, receiving or transmitting data are prohibited during an exam or quiz unless expressly authorized by the course instructor. Such devices must be turned off and left with your belongings in the front of the room.
• Exam dates are scheduled in the course syllabus and will only be changed in the event of University closure. There will be a mid-term & final examination exercise; the final will be partly comprehensive in nature. Exams may cover material (readings, outside assignments) not covered in class. Exam exercises will be in a format deemed necessary by the lecturer and appropriate for the covered material. They may be multiple choice, fill in the blank, short-answer, case- or scenario-based discussion, essay, or any other format deemed necessary by the lecturers and course coordinator. Students are not allowed to leave the classroom during an examination.
• 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.
  o 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.
  o In addition, students will be required to review each failed exam’s ExamSoft—generated missed item report with the course coordinator or 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.
  o 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 Director of Professional Affairs.
  o Failure to submit this required assignment will result in ineligibility to remediate.
• Quizzes or in-class graded exercises may be given, announced or unannounced, as deemed necessary by each faculty member. Quizzes & exercises will be added to the total points available for the course.
• Students wishing to review their exams with the course coordinator or with a specific lecturer must do so within 2 weeks of when the test scores are posted.
• In the event that a question is eliminated from an exam or graded exercise after it has been published, the exam/quiz will be graded based on the remaining number of questions and adjusted to represent the correct number of points.
• Students wishing to challenge a question on an exam or graded exercise must provide the course coordinator with a written statement that identifies the question(s) being challenged, why the student feels his or her answer is correct and references from recent (published in the last 1-2 years) primary or tertiary literature to support the claim. Problems or issues with questions should be directed first, via email, to the faculty member who presented the material. The course coordinator should be copied on this communication. In the event that the faculty member and the student cannot arrive at an acceptable conclusion, the course coordinator should be contacted regarding the issue. Discussion of a dispute will occur only after a written query is submitted. Challenges of exam or quiz questions will only be considered within 2 weeks of when the test/quiz scores are posted or within 1 week of the time that the score for the final exam is posted.
• Students are required to turn in all assignments no later than 2:00pm on the date the assignment is due (unless otherwise notified). Late assignments will not be accepted without a university-approved excuse or prior approval of the instructor.
• Students will complete 2 longitudinal projects during the course of the semester.
  o Students will participate in a variety of geriatric-related activities to earn squares on a bingo card. Students may select and complete any 5 activities.
  o Students will also interview an older adult and create a journal for the older person to keep or share with their family by typing up the interview, publishing it, and binding it in a creative way. An electronic copy of the journal should be submitted for grading purposes.
• Students are expected to go beyond the minimal requirements of all assignments in this elective course.
• Appropriate participation in class discussions and activities is integral to the development of professionalism in your pharmacy education. You will be expected to actively participate during each class meeting.

Semester Grade Determination:  

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
<th>Grade Range</th>
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<tbody>
<tr>
<td>Bingo Game</td>
<td>100</td>
<td>89.5% - 100% = A</td>
</tr>
<tr>
<td>Walk in My Shoes Project</td>
<td>100</td>
<td>79.5% - 89.4% = B</td>
</tr>
<tr>
<td>Mid-Term Case Exercise</td>
<td>50</td>
<td>69.5% - 79.4% = C</td>
</tr>
<tr>
<td>Final Case Exercise (Cumulative)</td>
<td>50</td>
<td>59.5% - 69.4% = D</td>
</tr>
<tr>
<td>Other Case Exercises (TBD)</td>
<td>20</td>
<td>Below 59.5% = F</td>
</tr>
<tr>
<td>Peer Evaluations (per Case Exercise)</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Quizzes &amp; Other Assignments</td>
<td>TBD</td>
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• Additional points may be available at the discretion of the course coordinator.
• Grades will be determined from points earned. Semester grades will not be curved.

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.

X. 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:
   • There is no required textbook for the course.
   • Reading material may be posted on Moodle by course faculty or the student may be instructed to use appropriate electronic resources to search for information. A geriatric pharmacotherapy resource list is also posted on the course Moodle page.

B. Attendance Policy:
   The College of Pharmacy adheres to the University Attendance Policy. The policy may be found at: http://catalog.ulm.edu/content.php?catoid=23&navoid=2875&hl=attendance&returnto=search#Class_Attendance_Regulations_Excused_Absences

C. Make-up Policy:
   Each student is expected to attend each exam/graded exercise at the date and time specified. If a student cannot attend an exam/graded exercise due to an excused absence [see Attendance section above for definition of an excused absence], he/she must speak directly with the course coordinator as soon as possible. The course coordinator must be notified prior to the original exam/graded exercise time. Exams/graded exercises will NOT be given early. Failure to attend a scheduled make-up will result in a zero (0) grade for that exam. Students missing an exam/graded exercise due to a University approved excuse will take the make-up during the week of finals, or as determined by the course coordinator. The format of the make-up may be written or oral and will be prepared at the same or higher level than the original exam. Exam/graded exercise dates are scheduled in the course syllabus and will only be changed in the event of University closure or at the discretion of the course coordinator.

D. Academic Integrity:
   Faculty and students must observe the ULM published policy on Academic Dishonesty (see the 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.
   Plagiarism of published work or the work of other students will not be tolerated. This includes “re-working” of documents previously published or submitted by another student. Plagiarized work will not be accepted for credit and will result in a zero (0) grade for that assignment.

E. Course Evaluation Policy:
   At a minimum, students are expected to complete the on-line course evaluation.

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). ULM student services, such as Student Success Center (http://ulm.edu/cass/), Counseling Center (http://ulm.edu/counselingcenter/), and Student Health Services, is available at the following Student Services website 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
- Marriage and Family Therapy Clinic: 342-5678
- Community Counseling Center: 342-1263
- ULM HELPS (Helping Educators and Learners Prevent Suicide) Project Office: 342-1335

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. Discipline/Course Specific Policies:
1. Students are responsible for all course information on Moodle and/or instructor websites. You are expected to check these sources regularly to access class materials, required readings, assignments, and other information necessary to excel in this course.
2. Professionalism:
   a. You will be required to participate in activities and interact with older adults in the community through some of the course assignments. During these interactions, you represent the ULM College of Pharmacy and are expected to dress and conduct yourself professionally.
   b. The older adults with whom you will come in contact during these activities will show you a great deal of respect as a professional pharmacy student. You are expected to recognize the level of respect that should be returned to them as older adults.

XI. Tentative Course Schedule

A. Contact Information:
Michelle Zagar, Pharm.D., M.Ed.(Course Coordinator)
Office: Bienville 113
Office Hours (preferred): Mon 1 – 4 pm; Tu 8 – 10 am; Wed 2 – 3 pm; Th 2 – 4 pm; Fri 8 – 10 am
Office Phone: 342-3173
e-mail: zagar@ulm.edu

Lance Nickelson, Pharm.D.
Office: Bienville 111
Office Hours: M–Th 1:30-4:30, Fri by appt
Office Phone: 342-3172
e-mail (preferred): jnickelson@ulm.edu
B. Schedule:
Class Meeting Times: Wednesday 3:00 – 4:50
Class Meeting Place: Bienville 110
The instructor reserves the right to adjust the schedule as needed.

<table>
<thead>
<tr>
<th>Date</th>
<th>Lecture Topic/Assignment</th>
<th>Instructor</th>
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<tbody>
<tr>
<td>Aug 21</td>
<td>Course Intro / Senior Care Pharmacy</td>
<td>Zagar</td>
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<tr>
<td></td>
<td>Walk in My Shoes Simulation &amp; Project Orientation</td>
<td>Zagar</td>
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<tr>
<td>Aug 28</td>
<td>Demographics of Aging / Biomedical Principles of Aging</td>
<td>Zagar</td>
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<tr>
<td>Sep 4</td>
<td>Interactive Bingo Project Orientation</td>
<td>Zagar</td>
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<tr>
<td></td>
<td>Class meets at Ouachita Council on Aging, 2407 Ferrand Street</td>
<td>Zagar</td>
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<tr>
<td>Sep 11</td>
<td>Enhancing Medication Adherence</td>
<td>Zagar</td>
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<tr>
<td>Sep 18</td>
<td>Communicating with Older Adults</td>
<td>Zagar</td>
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<tr>
<td>Sep 25</td>
<td>Vision-Impaired Medication Management Simulation</td>
<td>Zagar</td>
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<td>Medication-Related Problems</td>
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<td>Inappropriate Medication Use in Older Adults</td>
<td>Zagar</td>
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<tr>
<td>Oct 2</td>
<td><strong>Mid-Term Case Exercise</strong></td>
<td>Zagar</td>
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<tr>
<td>Oct 9</td>
<td>Geriatric Assessment</td>
<td>Nickelson</td>
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<td>Oct 16</td>
<td>Fall Prevention</td>
<td>Zagar</td>
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<tr>
<td>Oct 23</td>
<td>Current Topics Assignment (class does not meet)</td>
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<tr>
<td>Oct 30</td>
<td><strong>Current Topics Assignment Due</strong></td>
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<td></td>
<td>Aging &amp; Mental Health</td>
<td>Nickelson</td>
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<td>Medicare Part D Prep</td>
<td>Zagar</td>
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<td>Nov 6</td>
<td>Medicare Part D Enrollment Outreach</td>
<td>Zagar</td>
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<td>Nov 13</td>
<td><strong>Final Case Exercise (Cumulative)</strong></td>
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<td>Nov 20</td>
<td><strong>Present Walk in My Shoes Projects</strong></td>
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<td></td>
<td><strong>Bingo Game Due</strong></td>
<td>Zagar</td>
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<tr>
<td></td>
<td>Course Reflections</td>
<td>Zagar</td>
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<tr>
<td>Nov 27</td>
<td>Thanksgiving Holiday (Classes end at Noon)</td>
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