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

I.   Contact Information – Course Coordinator   * = preferred contact method
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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.
      7. Professional Development/Social and Behavioral Aspects of Practice – Development of professional self-awareness, capabilities, responsibilities, and leadership. Analysis of contemporary practice roles and innovative opportunities, and inculcation of professional attitudes, behaviors, and dispositions.
   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, which may include but are not limited to, pathophysiological aging, medication nonadherence, falls, inappropriate medication use, mental health issues, cognitive impairment, and other age-related diseases with special considerations, geriatric assessment, and communicating with the elderly.

VIII. Instructional Methods and Activities

Course topics will be covered through multiple methods which may include, but are not limited to, synchronous and asynchronous lectures, assigned readings, individual and group assignments, case studies, videos, discussions, games, reflective writing, and community service activities.

IX. Evaluation and Grade Assignment

- Exam dates are scheduled in the course syllabus and will only be changed in the event of University closure.
- Exams may be multiple-choice, fill-in-the-blank, short-answer, case- or scenario-based discussion, essay, or any other format deemed necessary by the faculty members and Course Coordinators.
- Normal laboratory values will be provided for all questions, unless otherwise specified during class. Lab values that are specific to a disease state will generally not be provided.
- Information acquired from previous portions of the course and from other courses in the professional pharmacy curriculum may be needed in preparing for these examinations.
- Exams may cover material (readings, outside assignments) not covered in class.
- Exams will NOT be returned to the student. All instructors will have copies of the exam and students' results, and students may view their exam results (inc. right/wrong) in instructors' offices, at times convenient for all involved. At this time, they may also discuss exam questions with the instructors who wrote them; however, any official "challenges" of questions must be done in writing. (See below)
- Exams may be issued using Exam Soft; all students are required to download the exams prior to the date of the scheduled exam. If a student cannot take the exam on the scheduled date the student must reverse download the exam to Exam Soft. Under no circumstances should a student open an examination, except during the scheduled time and at the scheduled location. Scratch paper will be issued on the day of the exam and all students are required to sign the scratch paper and return it to the exam proctor prior to leaving the room. No other paper items will be allowed during the exam unless supplied by the faculty administering the exam. All

exams most be uploaded before leaving the classroom; in the event of a power outage or loss of Wi-Fi connection all students are required to upload the exam at the earliest possible reconnection time, however proof of exam closeout will be required prior to leaving the classroom.

- Students wishing to review their exams with the course coordinators or with a specific faculty member must do so within 2 weeks of when the exam scores are posted, or within 1 week of the time that the score for the final exam is posted.

- Problems or issues with a question should be first directed, via e-mail, to the person who wrote it. The course coordinator(s) should be copied on this email, but it is the responsibility of the question's author to address the concern(s). If the student is unsure which faculty member wrote a specific question, then he or she may ask the course coordinator. In the written challenge, the student is expected to include references or rationale to support their challenge of the question. The challenge will be reviewed by the faculty member, and his or her decision will be shared with the course coordinator(s). Discussion of a dispute will occur only after the written query is submitted. Challenges of test questions will only be considered within 2 weeks of when the test scores are posted. For the final examination, challenges of test questions will only be considered within 1 week of the time that the scores are posted.

- In the event that there is an issue with a particular test question, adjustments to scores will be made based on discussions between the test question writer and the course coordinator.

- The use of programmable calculators and 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.

- 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 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 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.
    - 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.
    - Failure to submit this required assignment will result in ineligibility to remediate.

- Quizzes or other 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.
- Due dates for assignments are posted in Moodle. However, I recognize that sometimes "life happens." In these instances, you may use two allotted "flex days." These days allow you to submit an assignment up to two days late without penalty. You can use these days for any weekly assignments and for any reason. You do not need to provide me with the reason: simply email me and tell me how many of your flex days you would like to use before the assignment deadline. **You MUST email me by Wednesday at 8:00 am on the assignment due date if you want to use the flex day policy**. For example, if an assignment is due on Wednesday at 5:00 pm, using one flex day would extend the deadline to Thursday at 5:00 pm and using two flex days would extend it to Friday at 5:00 pm. Once you've exhausted your flex days, late assignments will not be accepted and you will receive a zero (0). ***This flex policy does not cover mid-term and final case exercises, the Bingo Game, and the Walk in My Shoes Project.***
- Appropriate participation in class discussions and activities is integral to the development of professionalism in your pharmacy education. You are expected to actively participate during synchronous class meetings and other activities and assignments. Unexcused class absences or failure to participate in class activities will result in a zero (0) for professionalism/participation for that class period.

Semester Grade Determination:

Bingo Game	100 points	**GRADING SCALE:**
Walk in My Shoes Project	100 points	89.5% - 100% = A
Mid-Term Case Exercise	50 points	79.5% - 89.4% = B
Final Case Exercise	50 points	69.5% - 79.4% = C
Other Weekly Assignments	20 points each (TBD)	59.5% - 69.4% = D
Professionalism/Participation	10 points per class period	≤ 59.5% = F
Quizzes & Other Assignments	TBD	

- 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 by course faculty or the student may be instructed to use appropriate electronic resources to search for information.
   B. **Attendance Policy**:

Class attendance is regarded as an obligation as well as a privilege, and students are expected to know attendance regulations and to attend regularly and punctually at classes in which they are enrolled. Failure to do so may: (1) prevent access to the classroom during regularly scheduled times; (2) jeopardize a student's scholastic standing; and (3) lead to suspension from the College or University. Students must submit excuses for class absences to course coordinators within three class days after returning to classes.

Professors shall accept an official University excuse. With the following exceptions, professors are to determine whether absences are excused or unexcused: 1) Absences arising from authorized trips away from the University or from special duties at the University shall be excused. 2) Absences arising from a student's confinement in a hospital or other in-patient facility or doctor's excused absences shall be excused. Students are responsible for verifying providing documentation to the faculty, which will be verified. 3) Absences arising from a death in the immediate family shall be excused. The immediate family is defined as spouse, child, step-child, mother, father, sister, brother, grandmother, grandfather, step-mother, step-father, step-brother, step-sister, aunt, uncle, mother-in-law or father-in-law.

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 valid University excuse, he/she must speak directly with the course coordinator, as soon as possible. The course coordinator must be notified **prior** to an examination if a student misses an exam/graded exercise. The ULM COP Excused Absence Policy must be followed. Please refer to the official document for details. In case of emergency, the course coordinator must be notified within 48 hours of the emergency. Failure to do so will result in a zero (0) grade for that exam/graded exercise. *The course coordinator reserves the right to handle makeups for students missing an exam/graded exercise due to a University approved excuse on an individual basis.* However, failure to attend a scheduled make-up exam/graded exercise will result in a zero (0) grade for that exam/graded exercises. http://www.ulm.edu/pharmacy/currents.html

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. http://www.ulm.edu/pharmacy/currents.html
- 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.
- Unless expressly allowed by the instructor, the use of artificial intelligence (AI) tools and applications (including ChatGPT, DALL-E, and others) to produce content for course assignments and assessments is a violation of the ULM College of Pharmacy's Code of Conduct and is prohibited.

Censures (Penalties)
Academic dishonesty will result in a referral to the Academic Standards and Ethics Committee. If the student is found guilty of Ethical and Professional misconduct by the committee, they will receive a zero for the assigned points (graded assignment or test) and up to an "F" in the course from the course coordinator in addition to any disciplinary action recommended by the

Academic Standards and Ethics Committee. Academic dishonesty includes, but is not limited to, the use of information taken from others' work or ideas, the provision of help to others on non-collaborative evaluations (tests, quizzes, etc.), collaboration on take home exams, or the use of unapproved information or electronic devices to assist in obtaining answers.

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 web site http://ulm.edu/studentaffairs/ Students with special needs requiring accommodations MUST follow the process described at http://rxweb.ulm.edu/pharmacy/student/specialneeds.pdf .

Mental Wellness on the ULM Campus
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. **The course coordinator reserves the right to adjust the syllabus or schedule, in accordance with University and College policies and procedures.**

H. Federal Regulations require determination and verification of every students' physical location while enrolled in classes (where they are physically located while taking classes), regardless of the delivery method (on campus, online). At the beginning of every semester and whenever physical location changes, students must update or verify their current location through banner https://ssb-prod.ec.ulm.edu/PROD/bwgkogad.P_SelectAtypUpdate. Students should do this by the end of the first week of classes.

I. Discipline/Course Specific Policies:

   i. *This course is a major requirement for the Doctor of Pharmacy degree. Completion of degree requirements leads to eligibility for professional licensure and/or certification in Louisiana upon graduation. Federal Regulations require universities to provide information to students about the alignment between Louisiana's requirements and those of other states. ULM has created a web page with discipline-specific information containing hyperlinks to Licensure Boards in the United States https://www.ulm.edu/professional-licensure-disclosures/index.html. Program Directors and/or faculty will discuss this information with you during advising or other program meetings but is also available to answer questions and address any concerns you might have. It is also important to note that licensure or certification requirements are subject to change. Although ULM Program Directors annually review and update licensure information for every state, the faculty recommends that before enrolling in a program and throughout enrollment, students communicate with the applicable state board to confirm understanding and whether upon completion of ULM's program, they will meet requirements.*

   ii. Students are responsible for all course information on Moodle and/or other 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.

XI. Tentative Course Schedule (*subject to change at the discretion of the Course Coordinator)

A. Contact Information:

      Michelle Zagar, Pharm.D., M.Ed.
      Clinical Professor
      Office: Bienville 113
      Office Hours: TBD
      Office Phone: 342-3173
      *Email: zagar@ulm.edu

B. Schedule:

      Class Meeting Time: Wednesdays 3:00 – 4:50
      Class Meeting Place: Bienville 110

Class	Topic
1	Course Orientation / Senior Care Pharmacy
2	Principles of Aging
3	Aging Simulation
4	Geriatric Assessment
5	Communicating with Older Adults
6	Enhancing Medication Adherence
7	**Mid-Term Case Exercise**
8	Aging & Mental Health
9	Fall Prevention
10	Medication-Related Problems / Inappropriate Medication Use in Older Adults
11	**Final Case Exercise (Cumulative)**
12	Current Topics in Older Adult Health
13	**Final Projects**