

**Integrated Lab Sequence IV
PHRD 4099
CRNs: 61737, 61738, 62139**

I. Contact Information:

Course Coordinator:

Anthony L. Walker, Pharm.D.
Bienville Building Room 217
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Office Hours:

Monday: 1 – 3 p.m.
Tuesday: 9 - 11 a.m.
Thursday: 9 - 11 a.m.

*Please email me to schedule an appointment if there is a specific meeting time you would like.

Course Instructors:

Dr. Ashley Barbo
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II. Course Prerequisites

Completion of PHRD 4070 ILS-III

Co-requisites: Current enrollment (or successful completion of) the following:

PHRD 4047 Parenterals
PHRD 4077 Health Care Systems
PHRD 4085 Therapeutics III - Infectious Disease
PHRD 4093 Therapeutics IV – Renal/Urology

III. Course Description: Integrated Lab Sequence IV (1 cr.)

Fourth in a six-semester longitudinal course sequence reinforcing students' knowledge, skills, and attitudes necessary for current and future pharmacy practice, particularly for the institutional setting.

IV. Curricular Objectives and Outcomes:

Domain 1 – Foundational Knowledge

1.1.1 Develop and demonstrate depth and breadth of knowledge in clinical sciences.
1.1.4 Apply knowledge in foundational sciences to solve therapeutic problems and advance patient-centered care.

Domain 2 – Essentials for Practice and Care

2.1.2 Interpret evidence and patient data
2.1.3 Prioritize patient needs
2.1.4 Formulate evidence based care plans, assessments, and recommendations

- 2.1.7 Document patient care related activities
- 2.2.3 Utilize technology to optimize the medication use system.
- 2.2.6 Apply standards, guidelines, best practices, and established processes related to safe and effective medication use

Domain 3 – Approach to Practice and Care

- 3.1.1 Identify and define the primary problem
- 3.1.2 Define goals and alternative goals
- 3.1.5 Implement the most viable solution, including monitoring parameters, to measure intended and unintended consequences
- 3.2.5 Adapt instruction and deliver to the intended audience
- 3.2.6 Assess audience comprehension
- 3.6.2 Actively listen and ask appropriate open and closed-ended questions to gather information
- 3.6.4 Use effective interpersonal skills to establish rapport and build trusting relationships
- 3.6.5 Communicate assertively, persuasively, confidently, and clearly
- 3.6.7 Deliver and obtain feedback to assess learning and promote goal setting and goal attainment
- 3.6.9 Document patient care activities clearly, concisely, and accurately using appropriate medical terminology

Domain 4 – Personal and Professional Development

- 4.1.4. Approach tasks with a desire to learn.
- 4.1.5. Demonstrate persistence and flexibility in all situations; engaging in help seeking behavior when appropriate.
- 4.1.6. Strive for accuracy and precision by displaying a willingness to recognize, correct, and learn from errors.
- 4.4.1 Demonstrate altruism, integrity, trustworthiness, flexibility, and respect in all interactions.
- 4.4.2 Display preparation, initiative, and accountability consistent with a commitment to excellence.
- 4.4.4 Recognize that one's professionalism is constantly evaluated by others.

ACPE Appendix 1 Outcomes

Pharmaceutical Sciences

Clinical Chemistry

- Application of clinical laboratory data to disease state management, including screening, diagnosis, progression, and treatment evaluation.

Extemporaneous Compounding

- Preparation of sterile and non-sterile prescriptions which are pharmaceutically accurate regarding drug product and dose, free from contamination, and appropriately formulated for safe and effective patient use. Analysis of the scientific principles and quality standards upon which these compounding requirements are based.

Pharmaceutical Calculations

- Mastery of mathematical skills required to accurately prepare prescriptions (including extemporaneously compounded dosage forms) that are therapeutically sound and safe for patient use. Calculation of patient-specific nutritional and drug dosing/delivery requirements.

Pharmaceutics/Biopharmaceutics

- Physicochemical properties of drugs, excipients, and dosage forms important to the rational design and manufacture of sterile and non-sterile products. Application of physical chemistry and dosage form science to drug stability, delivery, release, disposition, pharmacokinetics, therapeutic effectiveness, and the development of quality standards for drug products.

Pharmacology

- Pharmacodynamics, mechanisms of therapeutic and adverse drug actions and interactions, lifespan-dependent variations in physiology or biochemistry that impact drug action and effectiveness, and application of these principles to therapeutic decision-making.

Social/Administrative/Behavioral Sciences

Cultural Awareness

- Exploration of the potential impact of cultural values, beliefs, and practices on patient care outcomes.

Pharmacy Law and Regulatory Affairs

- Federal and appropriate state-specific statutes, regulations, policies, executive orders, and court decisions that regulate the practice of pharmacy, including the mitigation of prescription drug abuse and diversion.

Practice Management

- Application of sound management principles (including operations, information, resource, fiscal, and personnel) and quality metrics to advance patient care and service delivery within and between various practice settings.

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.

Clinical Sciences

Health Informatics

- Effective and secure design and use of electronic and other technology-based systems, including electronic health records, to capture, store, retrieve, and analyze data for use in patient care, and confidentially/legally share health information in accordance with federal policies.

Health Information Retrieval and Evaluation

- Critical analysis and application of relevant health sciences literature and other information resources to answer specific patient-care and/or drug-related questions and provide evidence-based therapeutic recommendations to healthcare providers or, when appropriate, the public.

Medication Dispensing, Distribution and Administration

- Preparation, dispensing and administration of prescriptions, identification and prevention of medication errors and interactions, maintaining and using patient profile systems and 23 prescription processing technology and/or equipment, and ensuring patient safety. Educating about appropriate medication use and administration.

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.

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 pharmaco-economic considerations, and treatment of patients across the lifespan.

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.

V. Course-Specific Objectives and Outcomes:

At the conclusion of this course, students should be able to: Demonstrate knowledge, skills, and attitudes related to second professional year course material.

VI. Course Topics – See Tentative Teaching Schedule

VII. Instructional Methods and Activities:

Teaching methods may include, but are not limited to: case/scenario based teaching; problem-based learning; service learning; individual/group exercises; self-directed learning; errors and omissions; role playing; online teaching; applied learning; point-of-care testing; projects/presentations; assignments/exercises; traditional lectures and the use of technology such as Power Point, Audience Response System, Human Patient Simulation, Distance Learning, Zoom, Moodle, ExamSoft, and other technology.

VIII. Evaluation and Grade Assignment:

Weekly laboratory exercises and assignments will account for 75% of the final lab grade. Quizzes concerning assigned pre-lab exercises and/or reading materials may be given at any time throughout the semester and will be counted as part of the weekly lab grade. It is extremely important to prepare for weekly laboratory exercises, as they account for the majority of the total lab grade.

Quizzes covering the “Top 200 Drugs” will account for 10% of the lab grade. Each drug quiz will cover 10 cards per week for a total of 10 quizzes in this lab course; the second 100 drugs will be covered in the next lab sequence. Please refer to the Top 200 Drug Quiz Schedule. Quiz content will include the brand and generic names, drug class, and dosage form(s). Please refer to the Top 200 Drug Quiz schedule. **A drug quiz average of 70% or higher is required in order to pass this course.** Students with a quiz average below 70% after the last quiz will be allowed a targeted remediation of the drug quizzes. This test will be administered by the lab coordinator during the last week of scheduled labs (the week before finals). The student must score at least a 70% on this exam in order to pass this course. The student will then receive a 70% average for the drug quiz final average.

Professionalism will total 10% of the final lab grade. Each week, 5 points may be earned or lost. Demeanor, enthusiasm, neatness, laboratory technique will be evaluated. **All**

points will be deducted for not wearing lab coat or for other dress code infractions, for poor condition of laboratory equipment, desk or drawer, or for poor demeanor/attitude in lab. This will be checked weekly. If benches are always clean, drawers neat and orderly, and the student always wears a pharmacy jacket and conducts self in a professional manner, all 5 points will be earned. A dress code will be enforced in this course (see section J). **Food or drink is not permitted by the lab stations. You may keep a bottle of water only (no other beverage – colas or coffee) by your backpacks or lunch in your lunch bag.**

The Longitudinal Readiness Exam (see explanation below) will account for 5% of your final grade.

The faculty member(s) facilitating the lab will develop lab assignments. All lab exercises will total 70% of your final grade. The lab is based on a 10 point grading scale:

A = 89.5 – 100

B = 79.5 – 89.4

C = 69.5 – 79.4

D = 59.5 – 69.4

F = ≤ 59.4

Exercises and/or quizzes will NOT be given early, except when deemed necessary by the instructor. If you have an unexcused absence, missed quizzes and/or laboratory exercises cannot be made up.

Laboratory Exercises	75%
Drug Quizzes	10%
Professionalism	10%
Longitudinal Readiness Exam	<u>5%</u>
Total	100%

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. 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. Longitudinal Readiness Exam

In accordance with the Student Assessment Plan, at the conclusion of each semester students will be required to complete a longitudinal exam, which will be administered and count towards the grade of the corresponding integrated lab sequence (ILS) course.

The exam will consist of NAPLEX-style assessment questions that assess retention of concepts taught in all courses and will count for one lab grade.

Longitudinal assessments will be comprehensive over all coursework but will focus on material taught in the semester in which the exam is offered.

For example: The exam offered in the fall semester of the P1 year will only test information covered in fall P1 courses, but the exam offered in the spring of the P2 year will focus on information covered in spring P2 courses, but a portion of the exam may test on concepts from any course offered previously.

Student Success Policy:

<http://www.ulm.edu/pharmacy/documents/ospa/earlyintervention.pdf>

Remediation Policy:

<http://www.ulm.edu/pharmacy/documents/ospa/remediationpolicy.pdf>

X. Class Policies and Procedures:

At a minimum, all policies stated in the current ULM Student Policy Manual & Organizational Handbook should be followed.

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/bwqkogad.P.SelectAtypUpdate>. Students should do this by the end of the first week of classes.*

This course is a major requirement for the PharmD degree in Pharmacy. 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.

(See <http://www.ulm.edu/studentpolicy/>). Additional class policies include:

A. Textbook and Materials: A nonprogrammable calculator may be required for some class assignments; please have available at all times. Texts for all co-requisite courses. Sigler's Top 300 Drug Cards Book is Highly Recommended for this course. Information for your drug quizzes will come direct from this book.

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 School 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

STUDENTS MISSING A GRADED EXERCISE

A student missing a graded exercise (exam, quiz, in-class assignment, scheduled lab etc.) **must** contact the Course Coordinator via email or phone prior to the graded exercise. If a student cannot contact the Course Coordinator prior to the graded exercise, they **must contact the coordinator within 24 hours of the graded exercise**. It will be the sole responsibility of the Course Coordinator as to determine whether or not the student had a sufficient excuse for not contacting the Course Coordinator prior to the exam. Provided this policy is followed and a validated excuse is presented, excused absences will be granted for those reasons outlined in the University catalog and the College of Pharmacy (COP) Student Handbook. Absences outside of those covered in the University catalog

and COP Student Handbook will be excused at the discretion of the Course Coordinator.

<http://www.ulm.edu/pharmacy/currents.html>

CONTACTING COURSE COORDINATORS

Contact information for all course coordinators is located in the syllabus for all courses; however, students are encouraged to pre-program their course coordinators office phone numbers into their cell phones or keep a list of course coordinator phone numbers where they are easily accessible. Students may contact the Office of the Dean (318-342-1600) or the Office of Student and Professional Affairs (318-342-3800) for assistance.

APPEALS FOR EXCUSED ABSENCES

In the event that a student disagrees with a Course Coordinator's decision concerning an excused absence, they may appeal that decision using the same pathway and timelines outlined for a grade appeal (Department Head, Associate Dean for Academic Affairs, Dean, Provost). Any appeal should include a copy of the validated excuse and a letter outlining reasons the excuse should be granted based on the SOP and University guidelines for excused absences.

If the student has a University approved excuse for missing an examination or lab exercise, one opportunity will be given for make-up at the discretion of the instructor(s). Failure to attend a scheduled make-up will result in a grade of zero (0) for that exam/exercise. Make-up labs will be prepared at a similar level of difficulty and may be given as a written exam or an oral exam in the presence of another faculty member.

- 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 School of Pharmacy's Code of Conduct (<http://www.ulm.edu/pharmacy/currents.html>).
- E. Course Evaluation Policy:** At minimum, students are expected to complete the on-line course evaluation as well as any evaluation administered in class by the College of Pharmacy.
- F. Student Services:** Information concerning student services in the School of Pharmacy can be found in the College of Pharmacy Student Handbook. In particular, pay **special attention** to the School'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. Fire Emergency Plan:** 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. Cell Phone Policy:** All cell phones should be turned off during class. If a student has a need to be notified during an emergency situation during class, he 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 emergently. Cell phones are not allowed in the classroom during examinations or quizzes. Students found to be in possession of a cell phone 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.
- I. Use of Prior Course Materials:** Prior exams and prior quizzes are NOT permissible to possess and distribute to other students. Students who hand down prohibited course material are in violation of the policy and the Honor Code.
- J. Laboratory Dress Code:**
- a. General Care**
- i. Good personal hygiene
 - ii. Hair maintenance – neat and clean, styled off the face and out of the eyes. Hair longer than shoulder length should be secured. Hair bonnets will be worn when compounding.
 - iii. Other
Nails should be well groomed, manicured and of short to medium length to facilitate compounding activities.
Tattoos must be covered by clothing.
Jewelry in pierced noses, lips, tongues, or other exposed body areas, other than ears, is not permitted.
- b. Attire**
- i. Lab coat is mandatory in all practice labs
 - ii. Clean professional styled clothing and shoes.
 - Shirts with a tail or a split should be tucked in.
 - Neckties are mandatory for all gentlemen.
 - Belts should be worn with all pants that have belt loops.
 - An undershirt should be worn if undergarments are visible through clothing.
 - Skirts should be no shorter than one inch above the knee when sitting.

- No spaghetti straps, halter tops, tube tops, showing of mid-drift, low-cut tops or organization-branded jerseys.
- Scrub tops and bottoms are permitted according to school guidelines.
- Casual Friday attire is not permitted in practice labs.
- Dress Capri pants can be worn.
- Sandals, tennis shoes, and flip-flops are prohibited; closed toe or peep toe shoes are allowed.

c. Dress Code Violation

At the discretion of the laboratory instructor, half or all of the student's total daily lab points may be deducted for not wearing proper laboratory attire for any dress code infractions. If a student is constantly reminded to adhere to the current dress code policy, that student may be asked to leave the lab and notification will be sent to the dean of academic affairs by the lab instructor.

All policies in the ULM COP student handbook will be followed.

The course coordinators reserve the right to adjust the syllabus or schedule, in accordance with University and School policies and procedures.

Week	Topic	Assessment	Professor
1 1/11 - 1/15	Review Outcomes Training Platform and Patient's EHR Software	Asynchronous Online	Walker
2 1/18 - 1/22	MLK Holiday (Monday Jan. 18)		
3 1/25 - 1/29	Sterile Compounding - Powder Reconstitution (Package Insert Review); Hospital Check Techs (Review)	Face to Face	Walker
4 2/1 - 2/5	Sterile Gowning & Garbing/IV preparation (using the allegation method), package insert activity (review)	Face to Face Drug Quiz #1	Walker
5 2/8 - 2/12	Recitation 1	Synchronous Online Drug Quiz #2	Clinical Faculty/ Walker
6 2/15 - 2/19	Mardi Gras Break (Feb 15-17) No Labs This Week		
7 2/22 - 2/26	Parenterals #1 (Parenterals Worksheet/Calculations; IV Preparation - vials, ampules, piggybacks)	Face to Face Drug Quiz #3	Tice
8 3/1 - 3/5	Recitation 2	Synchronous Online Drug Quiz #4	Clinical Faculty/ Walker
9 3/8 - 3/12	Chemotherapy/IV Prep Package Insert/calculations/sterile techniques lab	Face to Face Drug Quiz #5	Cockerham/Walker
10 3/15 - 3/19	Outcomes/MTM Lab	Synchronous Online Drug Quiz #6	Barbo
11 3/22 - 3/26	Recitation 3	Synchronous Online Drug Quiz #7	Clinical Faculty/ Walker
12 3/29 - 4/2	Diabetes Review (clinical and practical)/OTC DM Supplies Lab Meets <u>Mon</u> and <u>Wed</u> Only. Spring Break, Frid. 4/2	Face to Face Drug Quiz #8	Terrell/Sampognaro
13 4/5 - 4/9	Spring Holiday/Easter Break (Apr 5-9) No Labs This Week		
14 4/12 - 4/16	Parenterals #2 (Parenterals Worksheet/Calculations: Standard Conc.; Powders for Injection (PFI); Large Volume Parenterals; Percent Conc.; IV Preparation - PFI; liquid vials)	Face to Face Drug Quiz #9	Tice
15 4/19 - 4/23	Recitation 4	Synchronous Online Drug Quiz #10	Clinical Faculty/ Walker
16 4/26 - 4/30	*New* Parenterals Review Lab (Pre-OSCE Lab) Package Insert Review/IV Preparation/IV Dosage Calculations		Walker/Barbo
17 5/3 - 5/7	Longitudinal Naplex Readiness Exam Week End of Semester Game Exercise	Face to Face	Barbo/Walker
18	Finals Week - No Lab	*No Lab	

5/10 - 5/14			
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(The instructor reserves the right to adjust the schedule as needed AND classroom and hours of class)