# PHRD 420 Integrated Lab Sequence I

**Contact Information:**

Anthony Walker, Pharm. D.
Bienville Building Room 217
(318) 342-1708
awalker@ulm.edu

Roxie Stewart, Pharm.D.
Bienville Building Room 213
(318) 342-1703
rstewart@ulm.edu

Candace Chelette, Pharm. D.
Bienville Building Room 211
(318) 342-1730
chelette@ulm.edu

**Course Prerequisites:** None

**Course Co-requisites:**

PHRD 400
PHRD 402
PHRD 404
PHRD 406
PHRD 410
PHRD 412

**Course Description:** First in a six-semester longitudinal course sequence reinforcing students' knowledge, skills, and attitudes necessary for current and future pharmacy practice through a broad range of skills. Focus on medical terminology, microbiology, drug action, therapeutics, calculations, pharmaceutics, and pathophysiology.

# ULM College of Pharmacy
# Competency Statements/Educational Outcomes

**1. Provide Comprehensive Patient Specific Pharmaceutical Care.**

A. Evaluate the appropriateness of a given prescription or medication order based on patient and disease-specific factors.

ia. Collect patient-specific data regarding demographics, medical history, diagnosis, physical assessment, and medication history.

1) Conduct a patient/caregiver interview

a) Establish a relationship with the patient/caregiver.

b) Determine the most appropriate method of communication.

c) Complete a structured medical history.

2) Identify and collect pertinent information from the medical chart, database, and/or the patient/caregiver interview.

c) Recognize appropriate patient- and drug-specific factors that will impact the drug regimen.

ib. Analyze and interpret information gathered to identify any drug-related problem.

B. Evaluate each patient for self-treatment or referral.

i. Identify patient signs and symptoms amenable to self-treatment and identify contraindications to self-treatment.

ii. Identify the nature of the problem via a medical interview, medication history, and limited physical exam.

iiia. 2) Identify community resources

iv. Implement proper follow-up after the initial evaluation.

C. Develop and implement an evidence-based care plan. (pharmacology, med chem., physiology, pathology, etc.)

i. Identify goals of therapy that are individualized to the patient.

ii. Develop a plan of care that includes interventions to resolve drug therapy problems, achieve the goals of therapy, and prevent drug therapy problems.

iii. Develop a schedule to follow-up and evaluate the effectiveness of outcomes from drug therapies and assess any adverse events experienced by the patient.

iv. Evaluate patient outcomes with respect to the achievement of goals of therapy, patient adherence, patient safety, and the development of new drug therapy problems.

D. Compound and/or dispense the most optimal formulation for drug delivery consistent with the patient needs and in harmony with the law.

ii. Identify pertinent patient and drug specific biopharmaceutic issues and select the most appropriate dosage form, route, method of administration, and formulation. (pharmaceutics)

iii. Identify chemical stability and incompatibility issues (IV sets/fluids). (parenterals, med chem., pharmaceutics)

iv. Appropriately package and label the medication. (law)

vi. Apply good compounding practices. (law and pharmaceutics and ethics)
vii. Utilize appropriate weights, measures, and calculations. (pharmaceutics)

**2. Communicate Effectively.**

A. i. Assess the patient's level of literacy and health literacy.

C. Collaborate with other healthcare professionals using appropriate effective communication in both written and oral forms.
i. Demonstrate fluency in medical terminology.
ii. Demonstrate appropriate written, verbal and non-verbal communication skills.
iii. Demonstrate appropriate listening skills
iv. Communicate in a professional manner.

D. Read, write, speak, listen, and use data, media, and computers to send and respond effectively to communications for varied audiences and purposes.
i. Construct appropriate and professional presentations to support communication.
a. Demonstrate proficiency in appropriate computer software.
b. Prepare appropriate and relevant graphical support from available data.
c. Use acceptable reference styles.
d. Demonstrate appropriate written, verbal, and non-verbal skills.
e. Present and defend ideas in a logical and effective order.
f. Demonstrate ethical use in the procurement, derivation, use, and reporting of data.
ii. Use appropriate and professional communication skills.
iii. Demonstrate appropriate listening skills.

**5. Promote Health Improvement and Self-Care.**

A. Promote/participate in effective health and disease prevention services as part of patient or population specific care.
i. Identify health and disease prevention services needed.
ii. Identify available health care resources (e.g., personal, education, financial, equipment) necessary to provide services.

**6. Think Critically.**

A. Identify, retrieve, understand, analyze, synthesize, and evaluate information needed to make informed, rational, and ethical decisions.
i. Systematically gather, organize, and extract relevant information using a variety of methods and research tools.
ii. Analyze information within appropriate scientific, social, and clinical contexts.
a. Identify principles of organization and the logic of arguments.
b. Identify and test assumptions, biases, and prejudices implicit in arguments.
c. Employ appropriate mathematical and statistical tools and electronic technology to analyze information.

d. Assess accuracy, soundness, fairness, significance, relevance, completeness, and persuasiveness of information, arguments, and sources. (consider difference between information & the information source)

iii. Synthesize information in order to draw conclusions, hypothesize, conjecture alternatives, or plan a course of action.

iv. Evaluate conclusions and solutions according to appropriate criteria, and revise as necessary.

v. Provide support for rationale, solutions, and results.

B. 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.

i. Interpret problems within appropriate contexts.

ii. Prioritize problems based on identifiable criteria and standards.

iii. Apply systematic problem-solving strategies.

iv. Articulate and implement a defensible solution and apply appropriate criteria to monitor outcomes.

v. Implement modifications based on monitoring data.

C. Display habits, attitudes, and values associated with mature critical thinking.

i. Evaluate personal assumptions, biases, prejudices, and opinions.

ii. Display openness to new ideas and a tolerance for ambiguity.

iii. Display inquisitiveness and commitment to the pursuit of truth.

iv. Adopt multiple perspectives in personal thinking to avoid ethno-centricity and intolerance.

**7. Demonstrate Appropriate Interpersonal, Professional, and Ethical Behaviors.**

A. Maintain professional competence.

i. Continually strive to maintain knowledge and maintain professional competence.

ii. Continually assess his or her learning needs and develop the ability to respond appropriately.

B. Represent the profession in an ethical manner.

D. Provide service to the profession and the community.

F. Practice in a manner that is consistent with state and federal laws and regulations.(e.g., Law)

G. Accept the responsibilities embodied in the principles of pharmaceutical care.

H. Demonstrate appropriate interpersonal, intergroup, and cross-cultural behaviors that promote respect and trust from peers, patients, and community members.

**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; projects/presentations; assignments/exercises; traditional lectures and the use of technology such as Power Point, Audience Response System, Human Patient Simulation, Distance Learning, Camtasia and Moodle.

**Evaluation and Grade Assignment:**
Quizzes (Medical Terminology, Top 200, Calculations) will be given at the beginning of class. Tardy students will not be given extra time to complete the quizzes. Students not returning quizzes immediately after being requested to do so will be given a grade of zero (0) for that quiz (i.e. quizzes turned in late will result in a grade of zero).

Medical terminology will not be taught in the lab. This part of lab is self-directed study. The textbook along with the access code are to be **purchased at the ULM bookstore**. The access code will allow you to view supplemental lecture slides and activities on Moodle to enhance your learning experience. There will be 11 quizzes throughout the semester, beginning with the second week of lab. Chapter assignments can be found on the teaching schedule. Each Medical Terminology quiz will be worth 10 points.

Top 200 drug quiz questions will come from the current edition of Siglers' Prescription Drug Cards. Each student will be required to purchase a set of these cards which will be utilized throughout the curriculum. (Note: The purchase of updates will be necessary in subsequent years). These cards can be **purchased through the ULM College of Pharmacy**, or directly through SFI Medical Publishing. There will be 11 quizzes throughout the semester, beginning with the second week of lab. Only the first 100 drugs (1-100) will be covered in the ILS-I. The second half of the Top 200 drugs (101-200) will be covered in the ILS-II. Assignments can be found on the teaching schedule. Information contained on these quizzes will consist of the following: brand name, generic name, therapeutic class (according to the color code key on the Sieglers' cards) dosage forms, and strengths. Each Top 200 drug quiz will be worth 10 points.

Calculations quizzes will parallel material being discussed in the didactic course and/or material that has previously been taught. There will be 11 quizzes throughout the semester, beginning with the second week of lab. Each Calculations quiz will be worth 10 points.

Students will be allowed to drop one Medical Terminology quiz grade; one Top 200 quiz grade; and one Calculations quiz grade.

Each lab session will be worth 20 points (independent of the quizzes). Lab assignments will be developed by the faculty member(s) leading the lab.

For exams, quizzes and final exams, the students are responsible for material contained in all required reading, handout and lecture materials and homework. Students are responsible for all assigned reading materials whether or not they are covered in lecture.

Midterm exams will cover all medical terminology, calculations, Top 200 drugs and lab concepts covered to date. The midterm examination will be given to all sections at the same time. The scheduled date and time for the midterm examination is: **Monday, October 12, 2009 at 2PM.** *This date and time are subject to change. Any change will be communicated to you by the course coordinators.*

The final exam will be cumulative, but will be more heavily weighted on new material. The final examination will be given to all sections at the same time. The scheduled date and time for the final examination will be determined by administration and posted to the official examination schedule.

Exam dates and times will only be changed in the event of a University closing. Each exam may contain a mixture of question types and may include multiple choice, true/false, short answer, mathematical calculations, literature evaluations and clinical situations. **NO** informational resources (i.e. class notes, textbook, internet, electronic storage device, etc.) of any kind are to be used during an examination except for a TI-35 II calculator.

**Exams and/or quizzes will NOT be given early.**

| | |
|---|---|
| Medical Terminology Quizzes | 10% |
| Calculation Problems | 10% |
| Top 200 Drugs | 10% |
| Midterm | 10% |
| Final | 10% |
| Reflective Writing | 10% |
| Laboratory Exercises | 40% |
| **Total** | **100%** |

**Evaluation and Grade Assignment for Service Learning**

To receive credit for the service learning project, ***all*** of the following requirements must be met:

- Arrive 10 minutes prior to assigned time.
- Complete the reflective writing assignment in PEMS within one week of completing the project.
- Provide a ***University-approved excuse*** for any missed projects.
- Participate in all group meetings and planning if project is a group project.
- For group projects, complete a peer evaluation form on all members of the group to which you are assigned.

You will receive an incomplete for this project if all of the above requirements are not met, which will then result in an incomplete for the course! The project will have to be made-up in order to receive credit for the project and your grade in the class. The make-up project will not necessarily be during the same semester as the assigned project, nor does it have to be the same exact project.

**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/).

**A. Textbook:** Medical Terminology textbook and access code– A Living Language 4th Edition (ISBN # 0558215645). A calculator (TI 35 II) will be required for some class assignments and quizzes. Please have available at all times. Sigler's Prescription Drug Cards (Most recent edition with updates). Texts for all co-requisite courses. Students will also need to bring loose leaf paper to each class for quizzes.

**B. Attendance Policy:** Class attendance is mandatory in all pharmacy courses. 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. In accordance with College of Pharmacy policy and procedure, a grade of "W" will be counted as an "F" grade with respect to academic standards. Tardiness and disruptive behavior will not be tolerated.

## EXCUSED ABSENCES 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 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.

### STUDENTS MISSING CLASS TIME

Students **MUST** notify faculty of a scheduled absence (Physician Appointment, etc) prior to missing class. When possible, students **SHOULD** notify faculty of an unscheduled absence by phone or email prior to missing class. If a student cannot contact the Course Coordinator prior to class, they **MUST** contact the coordinator within 24 hours of class. 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 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.

Students **SHOULD NOT** miss class for drug screening; however, in the rare case where a student's class schedule does not allow sufficient time for drug screening within the pre-defined window, an excused absence will be granted by the Dean or his/her designee provided the student receives permission from the Dean's office or the Course Coordinator to be absent prior to the absence occurring. This excuse will be communicated in writing by the Dean or his/her designee directly to the Course Coordinator.

## EXCUSE VALIDATION

The validity of all excuses will be verified by the Office of Student and Professional Affairs. Students should bring the excuse to the Office of Student and Professional affairs before classes on the day they return to class. The Office of Student and Professional Affairs will verify the validity of the excuse and will sign and date the excuse. The student should retrieve the validated excuse on the **SAME** day it is dropped off in the office of Student and Professional Affairs. The student should provide the Course Coordinator with the validated excuse within two business days of its validation.

## 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. Student 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 College and University guidelines for excused absences.

## Make Up Policy - Lab

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.

C. **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 students must observe the ULM College of Pharmacy Code of Ethical and Professional Conduct (http://rxweb.ulm.edu/pharmacy/policies/copcodeofconduct.pdf)

D. **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.

E. **Student Services: Informa**tion concerning student services in the College of Pharmacy can be found in the College of Pharmacy Student Handbook. In particular, students you pay **special attention** to the Colleges technical standards and policies concerning students with special needs. 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/.

F. **Fire Emergency Plan:** Please review the emergency escape plan in the classrooms and hallways of Bienville. Move quickly and orderly when exiting the building. Any student needing assistance should notify the professor immediately.

G. **Cell Phone Policy:** All cell phones should be turned off during class. If a student has a need to be notified during a 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.

H. **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.

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

**Course Topics: (See Tentative Schedule)**

**Tentative Schedule PHRD 420 (Integrated Lab Sequence I)**

| Week | Topic | Reading | Assessment | Faculty | Lab Liaison |
|---|---|---|---|---|---|
| 1a 08/24-08/27 | Introductions. Syllabus. Introduction to Service Learning Project (My First Patient) – Andrews Lab Bench Assignments Equipment Checks. | | Introductions. Syllabus. Topic – Andrews Lab Bench Assignments Equipment Checks | Walker Stewart Chelette Andrews | |
| 1b | Introduction to Medication History/My First Patient | | | Andrews | |
| 2a 08/31-09/3 | My First Patient Physical Assessment **ALL LABS WILL MEET Tuesday, 09/01/2009 @ 8 am in Room 340** | | MedTerm QZ1-Ch 1 & 2 Personal Medical History write-up | Andrews/ C. Smith | Chelette |
| 2b | Introduction to Pharmaceutical Care/ Soap Note Papers/Group Discussions | Hepler & Strand Article | Calculations Prob 1 Top 200 QZ1 (Drugs 1-9) | Stewart Chelette | Stewart |
| **3a 09/7-09/10** | **Labor Day Holiday week** | | Relative Medical History write-up due online Calculations Prob 2 online | | |
| 4a 09/14-09/17 | Introduction to the prescription and Pharmacy RX | | MedTerm QZ2-Ch 3 & 4 Top 200 QZ2 (Drugs 10-18) 3 Prescription Labels | | Walker |
| 4b | Pathophysiology case study and small group discussion | | Calculations Prob 3 Top 200 QZ3 (Drugs 19-27) | Liu | Chelette |
| 5a 09/21-09/24 | Pharmaceutics case study/lab | | MedTerm QZ3 – Ch 5 | Degennaro | Stewart |
| 5b | Pharmaceutics small group discussion/lab | | Calculations Prob 4 Top 200 QZ4 (Drugs 28-36) | Degennaro | Stewart |
| 6a 09/28-10/01 | Drug Actions/Therapeutics Lab/case study | | MedTerm QZ4 – Ch 6 | Jois/Hill | Stewart |
| 6b | Drug Action/Therapeutics small group discussion /lab | | Calculations Prob 5 Top 200 QZ5 (Drugs 37-45) | Jois/Hill | Stewart |
| 7a 10/05-10/08 | Pharmacy Care Lab | | MedTerm QZ5 – Ch 7 | | ALL Stewart |
| 7b | Pharmacy Care Lab | | Calculations Prob 6 Top 200 QZ6 (Drugs 46-54) | | ALL Stewart |
| **8** 10/12-10/15 | **Midterm Exam** **Monday, October 12 @ 2:00 pm** | | **Midterm Exam** | | |
| 9a 10/19-10/22 | Microbiology case study/lab | | MedTerm QZ6 – Ch 8 My First Patient Behavior Change Assignment/Action Plan | Blaylock | Walker |
| 9b | Microbiology Lab/small group discussion | | Calculations Prob 7 Top 200 QZ7 (Drugs 55-63) | Blaylock | Walker |
| **10** 10/26 | **Fall Break** | | ***No Labs** | | |

| | | | | | |
|---|---|---|---|---|---|
| 11a<br>11/02-<br>11/05 | My First Patient Small Group Discussions | | MedTerm QZ7 – Ch 9<br>Calculations Prob 8<br>Top 200 QZ8 (Drugs 64-72) | Andrews | Chelette |
| 11b | Principles of Drug action<br>Lab/case and group discussion | | MedTerm QZ8- Ch 10<br>Calculations Prob 9<br>Top 200 QZ9 (Drugs 73-81) | Hill/Jois | Stewart |
| 12a<br>11/9-<br>11/12 | Combined microbiology/pathophysiology case/lab | | MedTerm QZ9 – Ch 11<br>My First Patient Reflective Essay | Blaylock/<br>Liu | Walker/<br>Chelette |
| 12b | Combined microbiology/pathophysiology case/lab | | Calculations Prob 10<br>Top 200 QZ10 (Drugs 82-90) | Blaylock/<br>Liu | Walker/<br>Chelette |
| 13a<br>11/16-<br>11/19 | Oral dosage form compounding (solution/suspension) | | MedTerm QZ10 – Ch 12 | Degennaro | Stewart |
| 13b | Oral dosage form compounding (suspension/emulsion) | | Calculations Prob 11<br>Top 200 QZ11 (Drugs 91-100) | Degennaro | Stewart |
| **14** | **Thanksgiving Holiday Week** | | *No Labs | | |
| 15a<br>11/30-<br>12/03 | Pharmacy as a Profession<br>Poster display | | MedTerm QZ11 – Ch 13 | Biglane | Stewart |
| 15 b | Pharmacy as a Profession<br>Poster display | | | Biglane | Stewart |
| **16** | **Final Exam** | | **Final Exam** | | |

**Sections for lab "a" will meet on:**

Monday 2-5PM
Tuesday 8-11AM
Tuesday 2-5PM

**Sections for lab "b" will meet on:**

Wednesday 2-5PM
Thursday 8-11AM
Thursday 2-5PM

***Please note- The course Schedule is subject to change per instructor(s)***