

RESPIRATORY MODULE

PHRD 5031

CRN 62143

I. Contact Information

Course Coordinators:

Jessica Brady, PharmD, BCPS

Bienville 115

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318-342-1697

Office hours: Monday – Thursday 1:00 – 4:00

(Contact by email or in person)

Shawn Manor, PharmD, BCPS

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Office hours: Monday – Thursday 8:00 – 9:00 and 1:00 – 2:00

Course Instructors:

Yong-Yu Liu, PhD, MD

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318-342-1709

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Ronald Hill, PhD

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318-342-1706

Office hours: Monday, Wednesday 11:00 – 12:30 and 4:30 – 5:30; Tuesday, Thursday 3:30 – 5:30; Friday 12:15 – 1:15

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318-342-1721

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II. Course Description

Principles of pathophysiology, pharmacology, medicinal chemistry, clinical pharmacokinetics and pharmacotherapy (including both prescription and nonprescription medications) as they apply to respiratory drug therapy management. 2 credit hours.

III. Course Prerequisites/Corequisites

Prerequisites: Completion of PHRD 4058 Neurology/Psychiatry Module, PHRD 4074 Endocrinology Module, and PHRD 4081 Infectious Diseases Module with a grade of “C” or better.

IV. Curricular Objectives and Outcomes

- **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**.
- **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).
- **2.2. Medication use systems management (Manager)** - Manage patient healthcare needs using human, financial, technological, and physical resources to optimize the safety and efficacy of medication use systems.
- **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.

- **3.1. Problem Solving (Problem Solver)** – Identify problems; explore and prioritize potential strategies; and design, implement, and evaluate a viable solution.
- **3.2. Educator (Educator)** – Educate all audiences by determining the most effective and enduring ways to impart information and assess understanding.
- **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.
- **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.
- **4.3. Innovation and Entrepreneurship (Innovator)** - Engage in innovative activities by using creative thinking to envision better ways of accomplishing professional goals.
- **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. Course Specific Objectives and Outcomes

- For the disease states covered, the students should practice and refine the following abilities:
 - Recommend appropriate non-pharmacologic therapy based upon patient- and disease specific information.
 - Identify appropriate patients to benefit from non-pharmacologic therapy.
 - Non-pharmacologic therapy recommendations are based on patient-specific information (age, weight, height, lifestyle, occupation, etc).
 - Non-pharmacologic therapy recommendations are based on disease-specific information (pathophysiology, disease severity).
 - Recommend pharmacotherapeutic regimens based upon patient-, disease-, and drug specific information.
 - Identify correct drug, dose, route, frequency and duration.
 - Drug dose, route, and frequency are justified based on drug-specific data (pharmacology, pharmacokinetics, pharmacodynamics, medicinal chemistry).
 - Drug dose, route, frequency and duration are based on patient-specific data (age, weight, renal function, hepatic function, history, signs and symptoms).
 - Drug dose, route, frequency and duration are based on disease-state specific data (pathophysiology, disease severity).
 - Recommendations include identifying endpoints for treatment based on the history of the underlying disease, desired clinical endpoints, and/or standard guidelines for therapy.
 - If recommending IV therapy, an endpoint for IV therapy and guidelines for switching from IV to oral therapy (or other route) are provided.

- Monitor pharmacotherapy for efficacy, toxicity, and adverse events.
 - Monitoring parameters take into account drug specific data (pharmacology, medicinal chemistry, pharmacokinetics, pharmacodynamics).
 - Monitoring parameters take into account patient-specific data (age, weight, renal function, hepatic function, history, signs and symptoms).
 - Monitoring parameters take into account disease specific data (pathophysiology, disease severity).
 - Identify pertinent subjective and objective parameters for efficacy.
 - Identify pertinent subjective and objective parameters for toxicity/adverse effects.
 - Establish intervals and frequencies for monitoring (e.g., check temperature twice daily, measure intake and output every 8 hours).
 - Identify potential drug interactions and monitors accordingly.
- Provide education regarding the appropriate use of medications.
- Evaluate the appropriateness of patient-specific therapy and modify therapy as needed.

VI. Course Topics

Topics to be covered in this module include respiratory system pathophysiology, pharmacology, and medicinal chemistry. Therapeutics topics include cystic fibrosis, pulmonary hypertension, tuberculosis, asthma, chronic obstructive pulmonary disease, and smoking cessation.

VII. Instructional Methods and Activities

Instructional methods may include traditional lectures, internet-based lectures with in-class discussion, distance learning, in-class discussion of patient cases, small group discussion, problem-based learning, case-based learning, demonstration of various devices, and individual projects. Quizzes and/or graded assignments may also be administered.

VIII. Evaluation and Grade Assignment

Exams may consist of any combination of multiple choice, true/false, short answer, and clinical situations as determined by the instructor, administered in electronic format by use of ExamSoft. Each student will be required to present to the exam with a working computer on which the exam has been downloaded. Scratch paper will be provided and must be returned prior to exiting the classroom following the exam.

- The exam will be made available in a time such that students will be able to download the exam **PRIOR** to the test time. Students will not be given extra time to take the exam to allow for the downloading of the test document.
- Students must upload the exam in a timely fashion. Failure to do so will result in a zero on that exam. In the event of an internet issue, students who have an issue uploading the exam will contact the course coordinators immediately and it will be addressed at the discretion of the coordinators.

Each class period will be worth 20 points.

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

Problems or issues with question(s) should be first directed, via e-mail, to the instructor who wrote it. The course coordinator(s) should be copied on this email, but it is the responsibility of the instructor to address the concern(s). (If the student is unsure which instructor wrote a specific question, then he or she may ask the course coordinator.) The student is expected to include references or rationale to support their challenge of the question in writing. The instructor will review the challenge, and his or her decision will be shared with the course coordinator(s). Discussion of a dispute will occur only after a written query is submitted, with reasoning for the challenge.

After the exams have been graded and an item analysis performed, questions may be discarded or otherwise adjusted at the discretion of the Course Coordinators, in consultation with the faculty on that exam, before arriving at final grades. When, due to faculty concerns regarding a question appearing on an administered examination, or as the result of a student-generated appeal that is judged to be valid and of merit by course faculty and/or coordinators, the question will generally be omitted from the grade calculation for all students – the total points for the course grade will be reduced. Course coordinators reserve the right to deviate from this general guideline, however, according to their professional judgment as it pertains to the specifics of the issue with the question deemed to be flawed.

Exam 1	90 pts
Exam 2	80 pts
Exam 3	60 pts
Inhalation devices activity	10 pts
Other assignments/quizzes	TBD

Grading Scale:

89.5 – 100%	A
79.5 – 89.49%	B
69.5 – 79.49%	C
59.5 – 69.49%	D
≤59.49%	F

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.

IX. Class Policies and Procedures

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

A. Textbook(s) and Materials:

Required:

- Chisholm-Burns M, Schwinghammer TL, Wells BG, Malone PM, Kolesar JM, DiPiro JT, eds. *Pharmacotherapy: Principles and Practice*. 2nd ed, New York, McGraw-Hill, Inc., 2010. ISBN 9780071621809
- Brunton LL, Lazo JS, Parker KL, eds. *Goodman and Gilman's, The Pharmacological Basis of Therapeutics*. 11th ed, McGraw-Hill, Inc., 2006. ISBN 9780071422802

Recommended:

- Lemke T, Williams D, eds. *Foye's Principles of Medicinal Chemistry*. 7th ed, Lippincott, Williams, & Wilkins, 2012. ISBN 9781609133450

Additional REQUIRED and/or recommended reading materials may be posted on Moodle by course faculty.

B. Attendance Policy:

Class attendance is required. 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: (1) may prevent access to the classroom during regularly scheduled times; (2) may jeopardize a student's scholastic standing; and (3) may lead to suspension from the college or University.

Students shall submit excuses for all class absences to professor 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 this information to the faculty. 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:

If the student cannot attend an exam, ADVANCE NOTICE MUST BE GIVEN to the course coordinator(s). 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. Excused make-ups will be within one week of the student's return to class at the convenience of the coordinator(s). Excused absences will be determined using the guidelines stated in the University Catalog. Failure to attend a scheduled make-up will result in a grade of zero (0) for that exam. Make-up exams and/or assignments may be of any format agreed to by faculty members involved with the course and the course coordinator(s).

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/documents/ospa/codeofconductv82011.pdf>

Cheating, plagiarism, or other inappropriate conduct will not be tolerated. Academic cheating includes but is not limited to the accomplishment or attempted accomplishment of the following:

- Copying or obtaining information from another student's test paper/computer.*
- Using, during a test, materials not authorized by the person giving the test.**
- Collaborating, conspiring, or cooperating during an in-class or take-home test with any other person by giving or receiving information without authority.
- Stealing, buying, or otherwise obtaining all or part of an unadministered test.
- Selling or giving away all or part of an unadministered test or any information concerning specific questions and items on an unadministered test.
- Requesting, bribing, blackmailing, or in any other way causing any other person to obtain an unadministered test or information about an unadministered test or a test in the process of being administered.
- Substituting for another student, or permitting any other person to substitute for oneself to take a test.
- Submitting as one's own, in fulfillment of academic requirements, any work prepared totally or in part by another person.
- Any selling, giving, or otherwise supplying to another student for use in fulfilling academic requirement any work.
- Submitting artificially produced data or information in the place of descriptive, experimental, or survey results.
- Any other devious means of securing an unearned grade in a non-credit course or in a course offered for credit.
- Using, during a test, any electronic storage device, wireless and/or internet-based technology, or any other means that provides information not authorized for use during the testing period.

*A student looking on another student's paper/computer is considered cheating.

**The presence on one's person (or in close proximity thereto) of a condensation of test information which could be regarded as a "cheat sheet" will be considered adequate evidence to establish cheating.

Plagiarism is the use of any other person's work (such work need not be copyrighted) and the unacknowledged incorporation of that work in one's own work offered for credit.

Academic dishonesty will result in a referral to Committee on Ethical and Professional Standards with a recommendation for a grade of "F" for the course and expulsion from the College. 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 an answer to the question.

The use of programmable calculators and electronic devices capable of storing, receiving or transmitting data is 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.

E. Course Evaluation Policy: At a minimum, students are expected to complete the on-line course evaluation. It is requested that students also complete the College of Pharmacy course and instructor evaluations, including providing comments.

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

- Written responses must be submitted no later than one calendar week before the next scheduled exam. Responses must be written in complete sentences and may not be copied or pasted from any source, including class notes, treatment guidelines, textbooks, or any internet site. Submissions found to contain responses that have not been written in a student's own words will be considered a failure to submit.
- In addition, students will be required to review each failed exam's ExamSoft-generated missed item report with the 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.
- Failure to submit this required assignment will result in ineligibility to remediate.

G. Remediation Policy: Remediation is a privilege that must be earned through demonstrated attendance and active participation throughout the semester that the non-progressing grade was earned.

- To be eligible for remediation, the student must have completed all assigned work in the course. Also, if < 7% of students enrolled in a class fail to achieve a passing grade of “C” in a required course, students must have fulfilled all the requirements of the Early Intervention program as outlined the Student Success Policy to be eligible for remediation.
- Remediation will be offered to any student earning a course average of $\geq 65\%$ regardless of the total number of students failing, if $\geq 7\%$ of the enrolled students fail to earn a passing grade of “C” in the course with remediation. If the student makes a grade of <70% on the targeted final, their original grade will take the place of the “I” grade. The student can then re-enroll in the course at the next offering if eligible based on school progression policies. If this is the student’s second “F” grade in the curriculum, the student will be dismissed from the program.
 - Students will be allowed to remediate with a targeted remediation exam no more than three (3) times total in their P1-P3 years. Students may not remediate a class more than once. There will be no make-up exams in the remediation.
 - Students with a grade of “C” or better are not eligible to use remediation in an attempt to improve their grade in that course.
 - Students receiving a non--progressing grade as a result of a disciplinary action are not eligible to remediate that course in that semester.

H. 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/>.

Student Services:

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.

Information about ULM student services can be found via these links:

- Student Success Center www.ulm.edu/studentsuccess
- Counseling Center www.ulm.edu/counselingcenter/
- Special Needs at www.ulm.edu/studentaffairs/
- Library www.ulm.edu/library/reference.html
- Computing Center Help Desk www.ulm.edu/computingcenter/helpdesk

Current college's policies on serving students with disabilities can be obtained on the ULM website: www.ulm.edu/counselingcenter/

- If you need accommodation because of a known or suspected disability, you should contact the Director for Disabled Student Services at:
- Voice phone: 318-342-5220
- Fax: 318-342-5228
- Walk-In: ULM Counseling Center, 1140 University Avenue (this building and room are handicapped accessible).

Mental Wellness on the ULM Campus

If you are having any emotional, behavioral, or social problems and would like to talk with a caring, concerned professional, please call one of the following numbers:

- The ULM Counseling Center: 318-342-5220
- The Marriage and Family Therapy Clinic: 318- 342-9797
- The Community Counseling Center: 318-342-1263

Remember that all services are offered free to students, and all are strictly confidential.

If you have special needs that I need to be made aware of, you should contact me within the first two days of class.

Sexual Harassment or Gender-Based Discrimination

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 sexual harassment or gender-based discrimination, please contact the Title IX Coordinator at 318-342-1004; you may also file a complaint online, 24 hours a day, at: www.ulm.edu/titleix.

I. 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.

J. Discipline/Course Specific Policies:

Students are responsible for all information on Moodle[®] and/or instructor websites. Students are expected to check these sources regularly to access class materials, required readings, assignments, and other information necessary for this course.

Lecture Period	Day	Date	PHRD 5031: Respiratory Module Bienville 170 Friday 8-9:50 am		Pts on Exam/ Due Date
			Topic	Instructor	
1	F	1/18	Respiratory Pathophysiology/Pharmacology	Liu	20 pts, 2/15/19
2	F	1/25	Respiratory Medicinal Chemistry	R. Hill	20 pts, 2/15/19
3	F	2/1	Asthma	Jacobs	40 pts, 2/15/19
4	F	2/8	Asthma	Jacobs	
5	F	2/15	Theophylline Inhalation devices activity	Manor Brady	10 pts, 2/15/19 10 pts (not on exam)
	F	2/22	Exam 1 (Lecture Periods 1-5)		90 pts
6	F	3/1	Smoking Cessation	Sampognaro	40 pts, 3/22/19
7	F	3/8	Smoking Cessation	Sampognaro	
8	F	3/15	Cystic Fibrosis	Tice	20 pts, 3/22/19
9	F	3/22	Chronic Obstructive Pulmonary Disease	Brady	20 pts, 3/22/19
	F	3/29	Exam 2 (Lecture Periods 6-9)		80 pts
10	F	4/5	Pharmacology- PAH Pulmonary Hypertension	Liu Posey	10 pts, 5/3/19 10 pts, 5/3/19
11	F	4/12	Pharmacology-TB Medicinal Chemistry-TB	Shah R. Hill	10 pts, 5/3/19 10 pts, 5/3/19
	F	4/19	Spring Break		
	F	4/26	Spring Break		
12	F	5/3	Tuberculosis	Posey	20 pts, 5/3/19
	F	5/10	Exam 3 (Lecture Periods 10-12) 9:00 am		60 pts