

**ULM College of Pharmacy
Fall 2017**

Cardiovascular Module, PHRD 5010: 42334

I. Contact Information

Coordinators

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* indicates preferred method of contact

II. Course Prerequisites/Corequisites

Prerequisites: PHRD 4027, PHRD 4035, PHRD 4056, PHRD 4058; Corequisite: PHRD 5008

III. Course Description

Principles of pathophysiology, pharmacology, medicinal chemistry, clinical pharmacokinetics and pharmacotherapy (including both prescription and non-prescription medications) as they apply to cardiovascular drug therapy management. 6 credit hours

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.)

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.

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. Course Specific Objectives and Outcomes

- At the conclusion of this course, students should be able to:
 - Demonstrate knowledge of the medicinal chemistry, pharmacological mechanism of action and related pharmaceutical topics of selected medications and medication classes used to treat cardiovascular disorders. (1.1)
 - Identify appropriate non-pharmacologic therapy, based upon patient- and disease-specific information. (1.1, 2.1, 3.1)
 - Develop appropriate pharmacotherapeutic regimens based upon patient- and disease-specific information. (1.1, 2.1, 3.1)
 - Develop a plan for monitoring the pharmacotherapeutic regimen for efficacy, toxicity, and adverse effects. (1.1, 2.1, 3.1)
 - Develop a plan for educating the patient regarding drug therapy. (1.1, 2.1, 3.1)
 - Review a patient-specific drug therapy regimen and make adjustments as necessary. (1.1, 2.1, 3.1)
- Please see individual lectures for content-specific objectives.

VI. Course Topics

Pharmacology, medicinal chemistry and therapeutics related to: hypertension, dyslipidemia, angina, anticoagulation, shock Syndromes, acute coronary syndromes, myocardial infarction, heart failure, Advanced Cardiac Life Support (ACLS), arrhythmias (including atrial fibrillation), thromboembolism and stroke

Instructional Methods and Activities

Instructional methods may include: traditional lectures, distance learning, in-class discussion of patient cases, small group discussions, problem-based learning, case-based learning, and individual projects or assignments

VII. Evaluation and Grade Assignment

- There will be four exams and a final exam. The final exam will not be comprehensive. Each 50-minute class period will be represented by 6 points on the exam.
 - Exam 1:** 96 points
 - Exam 2:** 96 points
 - Exam 3:** 84 points
 - Exam 4:** 84 points
 - Final exam:** 84 points
 - Total points for the course: 444***
- *Quizzes/assignments will be given as deemed necessary by each faculty member. The points available from these quizzes and assignments will be added into the denominator for the total number of points available from the course, and course grade determined accordingly.
- 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 particular 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) Students may have the opportunity to participate in exam review using the delayed secure review feature in ExamSoft, in addition to reviewing questions with individual instructors or course coordinator.
 - 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.
- Exams will be issued using Exam Soft; all students are required to download the exams prior to the date of the scheduled exam. In the event that 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 must 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.
- Problems or issues with a question 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 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 for the first 4 exams 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. Thus, after the exams have been graded and an item analysis performed, questions may be discarded or otherwise adjusted at the discretion of the Course Coordinator in consultation with the faculty before arriving at final grades.
- 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.

Grading Scale:

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

VIII. Class Policies and Procedures**TEXTBOOKS (required):**

1. 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
2. Brunton LL, Chabner, BA, Knollmann BC, eds. *Goodman and Gilman's, The Pharmacological Basis of Therapeutics*, 12th ed, McGraw-Hill, 2006. ISBN 978-0-07-162442-8
3. Lemke, Williams, Roche, Zito, eds. *Foyes Principles of Medicinal Chemistry* 7th ed., Walters Kluwer/Lippincott Williams & Wilkins, 2013. ISBN: 978-1-60913-345-0.
4. Additional REQUIRED and/or recommended reading materials may be posted on Moodle by course faculty.

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. The University attendance policy will be followed during this course and can be located here:

http://catalog.ulm.edu/content.php?catoid=23&navoid=2875&hl=attendance&returnto=search#Class_Attendance_Regulations_Excused_Absences

Please note that signing an attendance roster on behalf of an absent student, or falsely representing attendance by any other means, is a violation of the ULM academic dishonesty policy and, potentially, federal law.

Students shall submit excuses for all class absences to the Course Coordinator within three class days after returning to classes, and if a grade-earning opportunity occurs during the affected class, also to the faculty member conducting the missed class. Course faculty shall accept an official University excuse (see below). With the following exceptions, the designated Course Coordinator is 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 providing documentation of any such events to the faculty, who will verify the authenticity and acceptability of this information.
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. Students are responsible for providing documentation of any such events to the faculty, who will verify the authenticity and acceptability of this information.

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. (continued next page)

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.

MAKE-UP POLICY:

Each student is expected to attend each exam at the date and time specified. If a student cannot attend an exam due to a valid University excuse (see above), he/she must speak directly with the course coordinator, as soon as possible. If a student finds in advance of an exam that (s)he will miss it for one of the above-listed reasons, the course coordinator must, if at all possible, be notified prior to the examination. If a make-up exam is authorized, subsequent failure to attend a scheduled make-up exam will result in a zero (0) grade for that exam. Make-up exams will be prepared at the same or higher level than the original exam. The format of the make-up exam may be written or oral. *Students missing an exam due to a University-approved excuse will take the make-up exam during the week of final examinations, or as determined by the course coordinators in conjunction with the faculty providing test content for the affected exam.*

ACADEMIC INTEGRITY:

Students must observe the ULM published policy on academic dishonesty (See the ULM *Student Policy Manual*: <http://www.ulm.edu/studentpolicy/>).

In addition, students must observe the ULM School of Pharmacy Code of Ethical and Professional Conduct (<http://www.ulm.edu/pharmacy/documents/ospa/codeofconductv82011.pdf>) and the Dress Code.

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.*
- 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 authorization.
- 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 any work for use in fulfilling an academic requirement.
- Submitting artificially produced data or information in the place of descriptive, experimental, or survey results.
- Any other devious means of securing an unearned grade.
- 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 (i.e., any information which could reasonably 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 (as detailed above) will result in a referral to the School of Pharmacy's Committee on Ethical and Professional Standards, with a recommendation for a grade of "F" for the course and expulsion from the School.

COURSE EVALUATION POLICY:

At a minimum, students are expected to complete the online course evaluation as well as any evaluation administered in class by the School of Pharmacy.

STUDENT SERVICES:

Information concerning student services in the School of Pharmacy can be found in the School of Pharmacy Student Handbook. In particular, students should 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/>.

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:

COP Office of Student and Professional Affairs: 342-3800

The ULM Counseling Center: 342-5220

The Marriage and Family Therapy Clinic: 342-9797

The Community Counseling Center: 342-1263

The ULM HELPS Project Office: 342-1335

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

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.

FIRE EMERGENCY PLAN:

Please review the emergency escape plan in the classrooms and hallways of the Bienville building. Move quickly and in an orderly manner 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.

COMMUNICATION WITH COORDINATORS AND INSTRUCTORS:

Open and frequent communication via email, phone, or face-to-face, is highly encouraged. If you feel that you are having problems in the course, please approach and discuss with the appropriate faculty member(s) as early as possible, to avoid complications later in the course that could impact your understanding of the material or your grade in the course.

Per School of Pharmacy policy, concerns, comments, and suggestions should be discussed/submitted first to the individual faculty member to whom they pertain (or to the Course Coordinators, if the concern is with the course as a whole). If not satisfactorily addressed, then that instructor's Department Head should be contacted, followed by the Associate Dean of Academic Affairs. Following this communication "chain" is important to allow for appropriate resolution of issues and continuous quality improvement, and to maintain the desired professional relationship between students and faculty.

This is an integrated course covering a number of topics from different viewpoints. If two (or more) faculty members present what appears to be conflicting information, it is important to question that information and discuss it with the faculty members(s) involved. The appropriate time to do this is prior to the exam covering that material.

Upon necessity and in accordance with the University and School policies and procedures, the Course Coordinators reserve the right to adjust the syllabus or schedule, in reasonable fashion and without compromising course integrity, in accordance with University and School of Pharmacy policies and procedures.

IX. Tentative Course Schedule *subject to change at the discretion of the Course Coordinator
Class will meet in Bienville 170 Monday, Wednesday and Friday at 8:00-9:50am

	Day	Date	Lecture	Instructor	Points on exam
1	M	8/21	Review of Cardiac Physiology	Jackson	12 points
2	W	8/23	Adrenergics Medicinal Chemistry	Jois	12 points
3	F	8/25	CCB & RAAS Medicinal Chemistry	Jois	12 points
4	M	8/28	Diuretics and Vasodilators	Jois	12 points
5	W	8/30	Diuretics and Vasodilators Antihyperlipidemics	Jois	12 points
6	F	9/1	Diuretics and Vasodilators	Jackson	12 points
	M	9/4	<i>Labor Day Holiday</i>		
7	W	9/6	Diuretics and Vasodilators Antihyperlipidemics	Jackson	6 points 6 points
8	F	9/8	Catecholaminergics and anticholinergics	Jackson	12 points
9	M	9/11	CCB & RAAS Pharmacology	Jackson	12 points
10	W	9/13	Dyslipidemia	Horace	12 points
11	F	9/15	Dyslipidemia	Horace	12 points
	M	9/18	Exam 1 – Lectures 1-8 (96 points)		
12	W	9/20	Hypertension	Jacobs	12 points
13	F	9/22	Hypertension	Jacobs	12 points
14	M	9/25	Hypertension	Jacobs	12 points
15	W	9/27	Hypertensive Crises	Hill	12 points
16	F	9/29	Antiplatelets, anticoagulants, fibrinolytics, thrombolytics	Jackson	12 points
17	M	10/2	Antiplatelets, anticoagulants, fibrinolytics, thrombolytics	Jois	12 points
18	W	10/4	Antiplatelets, anticoagulants, fibrinolytics, thrombolytics Pharmacogenomics of anticoagulation	Jois Posey	6 points 6 points
19	F	10/6	Anticoagulation	Sampognaro	12 points
20	M	10/9	Inotropes, vasopressin, cardiac glycosides, antiarrhythmics	Jackson	12 points
	W	10/11	Exam 2 – Lectures 9-15 (84 points)		
21	F	10/13	Inotropes, vasopressin, cardiac glycosides, antiarrhythmics Inotropes, cardiac glycosides and antiarrhythmics	Jackson Jois	12 points
22	M	10/16	Inotropes, cardiac glycosides and antiarrhythmics	Jois	12 points
23	W	10/18	ACLS/Arrhythmias	Posey	6 points 6 points
	F	10/20	<i>Fall break</i>		
24	M	10/23	ACLS/Arrhythmias	Posey	12 points
	W	10/25	Exam 3 – Lectures 16-23 (96 points)		
25	F	10/27	Stroke	Posey	12 points
26	M	10/30	Thromboembolism	Lafitte	12 points
27	W	11/1	Thromboembolism	Lafitte	12 points
28	F	11/3	ACS/MI	Lafitte	12 points
29	M	11/6	ACS/MI	Lafitte	12 points
30	W	11/8	ACS/MI	Lafitte	12 points
31	F	11/10	Angina	Lafitte	12 points
32	M	11/13	Shock syndromes	S. Posey	12 points
33	W	11/15	Shock syndromes	S. Posey	12 points
	F	11/17	Exam 4 – Lectures 24-30 (84 points)		
34	M	11/20	Peripheral arterial disease	Lafitte	12 points
35	W	11/22	Review day	TBA	
	F	11/24	<i>Thanksgiving Holiday</i>		
36	M	11/27	Heart Failure	S. Hill	12 points
37	W	11/29	Heart Failure	S. Hill	12 points
38	F	12/1	Heart Failure	S. Hill	12 points
		12/6	Final Exam – Lectures 31-38 (84 points) - @ 9:00 AM		