

PHRD 4083, Gastrointestinal, Hepatic, and Nutrition Module

I. Contact Information

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II. Course Prerequisites/Corequisites

- A. Prerequisites
 - a. PHRD 4000 Medical Microbiology
 - b. PHRD 4002 Principles of Drug Action I
 - c. PHRD 4012 Pathophysiology I
 - d. PHRD 4025 Principles of Immunology
 - e. PHRD 4027 Principles of Drug Action II
 - f. PHRD 4035 Pathophysiology II
- B. Co-requisite
 - a. PHRD 4099 Integrated Lab Sequence IV

III. Course Description

XXX. Gastrointestinal, Hepatic, and Nutrition module. 2 Cr. Selection of appropriate therapy for disorders of the gastrointestinal system based on treatment guidelines, disease pathophysiology, and the pharmacologic and physiochemical properties of medications. Additional nutrition requirements will be discussed.

IV. Curricular Objectives and Outcomes

- A. Provide Comprehensive Patient Specific Pharmaceutical Care.
 - a. Evaluate the appropriateness of a given prescription or medication order based on patient and disease-specific factors.
 - b. Evaluate each patient for self-treatment or referral.
 - c. Develop and implement an evidence-based care plan. (pharmacology, medicinal chemistry, physiology, pathology, etc.)
- B. Think Critically.
 - a. Identify, retrieve, understand, analyze, synthesize, and evaluate information needed to make informed, rational, and ethical decisions.
 - 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.
 - c. Display habits, attitudes, and values associated with mature critical thinking

V. Course Objectives and 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.

- i. Analyze the prescription regarding the medication, dose, delivery form, and duration of use as being appropriate for the patient and disease state.
 - 1. Collect patient-specific data regarding demographics, medical history, diagnosis, physical assessment, and medication history.
 - 2. Identify and collect pertinent information from the medical chart, database, and/or the patient/caregiver interview.
 - 3. Recognize appropriate patient- and drug-specific factors that will impact the drug regimen.
 - 4. Collaborate with other healthcare professionals.
 - B. Analyze and interpret information gathered to identify any drug-related problem.
 - i. Assess the prescription for interaction potential, including interactions with other medications (both prescription and non-prescription), disease states, foods, and herbals.
 - ii. Determine availability and appropriateness of medications and dosage forms.
 - iii. Identify appropriate duration of therapy for that disease state.
 - C. Develop and implement an evidence-based care plan.
 - 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.
- 2. Appropriately Manage and Use Resources of the Health Care System.**
 - A. Apply patient and population specific data, quality assurance strategies, and research processes to:
 - B. Develop disease-specific treatment algorithms/pathways for a health care system.
- 3. 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.
 - 1. Identify principles of organization and the logic of arguments.
 - 2. Identify and test assumptions, biases, and prejudices implicit in arguments.
 - 3. Employ appropriate mathematical and statistical tools and electronic technology to analyze information.
 - 4. 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.

4. 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. Collaborate proactively with other health care professionals.
- C. Accept the responsibilities embodied in the principles of pharmaceutical care.
- D. Demonstrate appropriate interpersonal, intergroup, and cross-cultural behaviors that promote respect and trust from peers, patients, and community members.

5. Course Specific Objectives and Outcomes

At the completion of this course the student will be able to:

- Assess a patient for the disease states covered in the course
- Provide therapeutic recommendations for the management of the disease based upon basic pharmaceutical science knowledge
- Recommend non-traditional therapies to patients to assist in the healing of the patient.

VI. Course Topics

This course will address the following topics: GERD/PUD, nausea/vomiting/diarrhea/constipation, IBD/IBS, hepatitis, cirrhosis, hepatic failure, drug induced hepatotoxicity, nutrition

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, and individual projects. Quizzes or other graded in-class exercises may also be administered.

VIII. Evaluation and Grade Assignment

- There will be two examinations and a final examination, each encompassing new material and may include comprehensive material as necessary.
- Quizzes may be given, announced or unannounced, as deemed necessary by each faculty member.
- Exam dates are scheduled in the course syllabus and may be changed with notification by the course coordinators in accordance with the School of Pharmacy exam policy.
- Exams may be given using ExamSoft, multiple choice, fill in the blank, short-answer, case or scenario based discussion, essay, or any other format deemed necessary by the lecturers and course coordinator.
 - ExamSoft exams
 - 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 will be given 1 blank sheet of scratch paper in which they will write their name and CWID on the top to be turned in immediately after the exam.
 - Exams will be set up so that students will not be able to go back to previous questions. You will not have the ability to skip questions or go back and change answers.
 - Scores will be made available immediately at the closing of the exam.
 - 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 coordinator immediately and it will be addressed at the discretion of the coordinator.

- Students will ***NOT*** be allowed to leave the classroom with their computer ***PRIOR*** to the end of the examination period.
 - Students wishing to review their exam will make an appointment with the course coordinator to do so.
- 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 not be provided.
- Information acquired from previous lectures in the course and from other courses in the professional pharmacy curriculum may be needed in preparing for these examinations.
- Exams will cover material (readings, outside assignments) not covered in class.
- **Acceptable exam behavior:**
 - Only a writing instrument should be at your desk. All book bags and other bags should be left at the front of the room.
 - Cell phones should be turned off and left with your belongings in the front of the room.
 - Students will not be allowed to leave the room to go to the restroom during the exam, unless accompanied by a faculty member of the same sex, provided there is another proctor to remain in the room.
 - For exams given using ExamSoft, computers used for the exam must remain in the classroom until the class period is over.
- Use of programmable calculators will not be allowed during quizzes or exams.
- **In the event that a question is eliminated from an exam after it has been printed, the exam will be graded based on the remaining number of questions and adjusted to represent correct number of points.**
 - *For example, on a 100 point exam if one 2 point question is eliminated, the exam will now be worth 98 points, not 100 points. No credit will be given for the eliminated question.*
- Students wishing to challenge a question on the test must provide the course coordinator with a **written (email preferred)** statement that identifies which question(s) being challenged, why the student feels his or her answer(s) is/are correct and references from recent (published within the last 1-2 years) primary or tertiary literature to support the claim. Problems or issues with question(s) should be first directed, via e-mail, to the faculty member who presented the material. The course coordinator should be copied on this communication. In the event that the faculty member and the student cannot arrive at an acceptable conclusion, the course coordinator should be contacted regarding the issue. Discussion of a dispute will occur only after a written query is submitted. Challenges of test questions will only be considered *within 2 weeks* of when the test scores are posted.
- Individual test grades for the course will be based strictly upon these percentages. There will be no curving or adjustments of grades except in the case of an incorrect question.
- **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.**

<u>Assessment method</u>	<u>Points</u>
Examinations	
Exam #1	100
Exam #2	100
Final Exam	140
New material	60
Old material	80
Total class points:	340

Grading Scale (based upon total number of points for semester):

90.0 – 100%	A
80.0 – 89.9%	B
70.0 - 79.9%	C
60.0 – 69.9%	D
<60.0%	F

Undergraduate mid-term grades will be posted on-line for students to view via Arrow. 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:

i. Required:

1. Chisolm-Burns. Pharmacotherapy. Edition 3
2. Brunton LL, Lazo JS, Parker KL, eds. Goodman and Gilman's, The Pharmacological Basis of Therapeutics, 12 th ed, McGraw-Hill, 2011. ISBN 978-0071624428.
3. Beale JM, Block JH, ed. Wilson and Gisvold,'s Textbook of Organic Medicinal and Pharmaceutical Chemistry , 12 th ed., Walters Kluwer/Lippincott Williams & Wilkins, 2010. ISBN 9780781779296.
4. Additional reading materials may be posted 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:

Each student is expected to attend each exam at the date and time specified. If a student cannot attend an exam due to valid University excuse, he/she must speak directly with the course coordinator, as soon as possible. The course coordinator must be notified **prior** to an examination if a student misses an exam. The ULM COP Excused Absence Policy must be followed. Please refer to the official document for details. In case of emergency, the course coordinator must be notified within 48 hours of the emergency. Failure to do so will result in a zero (0) grade for that exam. 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. Failure to attend a scheduled make-up exam will result in a zero (0) grade for that exam. Students missing an exam due to a University approved excuse will take the make-up exam during the week of finals, or as determined by the course coordinator.

D. Academic Integrity: Faculty and students must observe the ULM published policy on Academic Dishonesty (see Page 4 in *ULM Student Policy Manual* - <http://www.ulm.edu/studentpolicy/>).

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:

1. Copying or obtaining information from another student's test paper.*
2. Using, during a test, materials not authorized by the person giving the test.**
3. Collaborating, conspiring, or cooperating during an in-class or take-home test with any other person by giving or receiving information without authority.
4. Stealing, buying, or otherwise obtaining all or part of an unadministered test.
5. Selling or giving away all or part of an unadministered test or any information concerning specific questions and items on an unadministered test.
6. 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.
7. Substituting for another student, or permitting any other person to substitute for oneself to take a test.
8. Submitting as one's own, in fulfillment of academic requirements, any work prepared totally or in part by another person.
9. Any selling, giving, or otherwise supplying to another student for use in fulfilling academic requirement any work.
10. Submitting artificially produced data or information in the place of descriptive, experimental, or survey results.
11. Any other devious means of securing an unearned grade in a non-credit course or in a course offered for credit.
12. 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 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.

Censures (Penalties)

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.

E. Course Evaluation Policy: Students are expected to complete the on-line course evaluation. It is requested that they also complete the College of Pharmacy course and instructor evaluations, including providing comments. In addition, individual feedback is encouraged throughout the course.

F. Student Services: Information concerning student services in the College of Pharmacy can be found in the College of Pharmacy Student Handbook. In particular, students should pay special attention to the Colleges 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/>.

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

G. Emergency Procedures: (Include appropriate emergency information)

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. Discipline/Course Specific Policies: Students are responsible for all course information on Moodle and/or instructor websites. They are expected to check these sources regularly to access class materials, required readings, assignments, and other information necessary to excel in this course.

X. Course Schedule

Lecture	Day	Date	4083 Dr. Manor/Liu Room 202 T/TR 8-8:50 am		Pts on Exam/Due Date	Pts on Final/Due Date
			Topic	Instructor		
1	T	19-Jan	Pathophysiology GI	Liu		
2	TR	21-Jan	Pharmacology of antacid agents	Liu		
3	T	26-Jan	Pharmacology of other GI agents **	Liu		
4	TR	28-Jan	Pharmacology of other GI agents **	Liu	40 pts/Feb 24	16 pts/May 5
5	T	2-Feb	Pharmacology of DMARDs	Shah	10 pts/Feb 24	4 pts/May 5
6	TR	4-Feb	Medicinal Chemistry of Antacids	R Hill		
	T	9-Feb	Mardi Gras			
7	TR	11-Feb	Medicinal Chemistry of GI Agents	R Hill		
8	T	16-Feb	Medicinal Chemistry of GI agents	R Hill		
9	TR	18-Feb	Medicinal Chemistry of GI agents	R Hill		
10	T	23-Feb	Medicinal Chemistry of DMARDS	R Hill	50 pts/Feb 24	20 pts/May 5
11	TR	25-Feb	Therapeutics of GERD/PUD	Jacobs		
	T	1-Mar	EXAM I through Lect 10			
12	TR	3-Mar	Therapeutics of GERD/PUD	Jacobs	20 pts/Apr 13	8 pts/May 5
13	T	8-Mar	Therapeutics of N/V/D/C	Manor		
14	TR	10-Mar	Therapeutics of N/V/D/C	Manor	20 pts/Apr 13	8 pts/May 5
15	T	15-Mar	Therapeutics of IBS/IBD/Gallbladder	Jacobs		
16	TR	17-Mar	Therapeutics of IBS/IBD/Gallbladder	Jacobs	20 pts/Apr 13	8 pts/May 5
17	T	22-Mar	Pathophysiology of Nutrition	Robertson		
	TR	24-Mar	PCOA exam			
	T	29-Mar	Spring Break			
	TR	31-Mar	Spring Break			

18	T	5-Apr	Therapeutics of Nutrition	Robertson	20 pts/Apr 13	8 pts/May 5
19	TR	7-Apr	Pharmacology of Hepatitis	Shah		
20	T	12-Apr	Pharmacology of Hepatitis	Shah	20 pts/Apr 13	8 pts/May 5
21	TR	14-Apr	Medicinal Chemistry of Hepatitis	R Hill		
	T	19-Apr	Exam II through 11-20			
22	TR	21-Apr	Medicinal Chemistry of Hepatitis	R Hill		20 pts/May 5
23	T	26-Apr	Hepatic labs and clinical relevance/ Therapeutics of Viral Hepatitis	S Hill		
24	TR	28-Apr	Therapeutics of Viral Hepatitis	S Hill		20 pts/May 5
25	T	3-May	Therapeutics of Cirrhosis, Hepatic Failure, Drug Induced Toxicity	Manor		
26	TR	5-May	Therapeutics of Cirrhosis, Hepatic Failure, Drug Induced Toxicity	Manor		20 pts/May 5
	M	May	Final Exam			

**Including prokinetic agents, N/V/D/C agents, monoclonal antibodies, steroids, mesalamines, etc...