# INTRODUCTION TO PHARMACOLOGY AND THERAPEUTICS

**PH620**

Department of Pharmacology and Toxicology  
University Medical Center  
Robert E. Kramer, Ph.D., Susan E. Wellman, Ph.D., Course Directors

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PREFACE, GOALS, and OBJECTIVES

A primary objective of *Introduction to Pharmacology and Therapeutics* is to provide you a core of fundamental information and the general principles underlying the use of pharmacological agents in the practice of medicine. A secondary objective is to provide the opportunity for you to develop the skills needed to acquire and critically evaluate therapeutically relevant details of an ever-increasing number of pharmacological agents, advances in biomedical sciences, and evolving concepts of acceptable medical practice throughout your professional career.

The faculty involved in this course will try to achieve these objectives by familiarizing you with the principles underlying the therapeutic use of pharmacological agents. For the most part, these principles will encompass new information about an ever-increasing body of drugs. They include the basic terminology and methods for quantitative pharmacokinetic determinations and evaluation of drug-receptor interactions. Also, for each drug, and especially for those identified as prototypes for a specific drug class, information will be presented related to mechanisms of action, the major indications for its use, its most frequent or medically significant therapeutic actions, and the most common or medically deleterious adverse effects associated with its use. In some instances, knowledge of chemical structure, pharmaceutical formulation, pharmacokinetics and clinically relevant drug interactions also will be required. In addition, you will be presented with problems or asked to develop a critical question related to pharmacology and therapeutics for which you must provide an appropriate solution through a process that involves development of a strategy for finding appropriate evidence-based information, retrieval of that information from the biomedical literature, evaluation of the experimental or therapeutic data, and compilation of an informed, critical conclusion.

To a large extent, learning the core material will involve memorization. However, for you to fully understand the principles of pharmacology as applicable to the practice of medicine, you must go further: you will have to integrate your knowledge of anatomy, biochemistry, physiology, and pathophysiology with newly acquired information concerning the actions of drugs at the cellular, organ, system and whole-body levels.

**Specific learning (knowledge) objectives** which you must master to successively complete this course include the ability to:

- demonstrate the mathematical and interpretative skills needed to assess quantitative aspects of pharmacodynamic (drug-receptor interactions) and pharmacokinetic (absorption, distribution and elimination) manifestations of selected major or prototypical drugs.

- discriminate among a body of pharmacological agents and substances, based upon the generic drug name, pharmacological classification, primary mechanism of action, major clinical uses and/or most prevalent/clinically significant adverse effects.

- integrate previously acquired knowledge of anatomy, biochemistry, physiology, and pathophysiology with newly acquired information concerning the actions of drugs at the cellular, organ, system and whole-body levels.

- apply cognitive skills needed to evaluate therapeutic scenarios and to select an appropriate pharmacological solution to that situation.

- access, through electronic means, the available biomedical literature relevant to the pharmacological basis of medical practice.
Mastery of these objectives will provide a fundamental knowledge of pharmacology as well as the reasoning skills needed to readily evaluate and assimilate therapeutically relevant details of new pharmacological agents and evolving concepts of therapeutics into your practice of medicine throughout your professional career.

The information presented in this course concerning general classes of drugs and specific drugs within each class is recognized by the biomedical community as appropriate for students at your stage of professional development. The format and content of this course follow closely the national standard as defined by groups such as the American Society of Pharmacology and Experimental Therapeutics, popular medical textbooks, and UMMC clinical faculty. Knowledge Objectives as well as an Essential Drug List for a basic course in medical pharmacology compiled by the Association of Medical School Pharmacology Chairs can be viewed at http://amspc.org/Knowledge_Objectives_2008/index.htm

A concerted effort is made to integrate basic science facts with clinically relevant aspects of pharmacology through the use of case reports, clinical vignettes and presentation of clinical correlations. These aspects of the course offer a preview of what will be required of you to successfully bridge the gap between understanding the mechanistic aspects of pharmacology (as well as other basic sciences courses) to the rational and successful application of pharmacological intervention in the treatment of disease.

The core content for this course is defined operationally as the agents that are detailed in the required text; presently the 4th edition of Lippincott’s Illustrated Reviews: Pharmacology, R.A. Harvey and P.C. Champe, editors; Lippincott, Williams & Wilkins, 2009.

Your mastery of the material in this course will be assessed through your performance on internal examinations, assignments given as a part of this course, and the National Board of Medical Examiners subject examination in pharmacology. Furthermore, your ability to integrate pharmacology with other basic science content will be assessed by your performance on the United States Medical Licensure Examination, Step 1.

COURSE INFORMATION and GROUND RULES

CLASSROOM
All lectures and examinations for pharmacology are scheduled in the upper amphitheater, R354.

ATTENDANCE
It is the expectation of the Pharmacology faculty that you will attend class. Although it is the policy of the University of Mississippi School of Medicine that a student is NOT required to attend classes in which student evaluation is not directly based on active student participation, that policy is intended to provide some flexibility during extenuating circumstances. The attendance policy should not be taken as an open invitation to miss class.

For this course, there are 6 hours, in addition to examinations, for which attendance is REQUIRED. These hours are designated for TBL (Team-Based Learning), and all are within the autonemics block. Please reference the course schedule for the specific hours. Participation in these sessions directly affects individual grades as well as the grades for other members of the designated group. The content of these sessions can not be made up, and the consequence of
non-attendance is a failure (zero) for the applicable session or sessions. Your failure to contribute to the activities of your group can also impact the Professionalism component of your evaluation (see PROFESSIONALISM and PEER AND SELF EVALUATION for additional information).

**TEACHING AND LEARNING**

Teaching and learning are reciprocal, mutually-dependent processes. Faculty can not teach without your active participation. Nor can you learn without becoming actively involved. Although you can memorize details in isolation, real learning and the development of an understanding of how those details relate to disease and the therapeutic use of drugs will be best achieved through interaction with faculty and peers.

To that end, you should view faculty as important resources and lectures and other activities in this course as opportunities for learning. In the least, attendance allows you to gauge the relative importance of the content. More importantly, attendance offers ‘face-to-face’ time between you and the faculty. You are encouraged to use that time to your advantage. Actively engage the faculty by asking questions. Participate by responding to questions asked of the class. Be actively, rather than passively, involved by taking your own notes or jotting down what you think are the major concepts; both can serve later as study guides.

Keep in mind that you will achieve the greatest benefit from attending class if you prepare beforehand. For this course, it is our expectation that you will, in fact, come to class prepared and ready to actively participate in learning. For you, that means familiarizing yourself with the basic content by reading and studying the pertinent material before you come to class. For us as faculty, it means that we will not simply reiterate content. Rather, we – along with you – will discuss concepts, pose problems, and examine the rationale selection of drugs as well as their therapeutic consequences. Much of that discussion will be premised upon the underlying biochemistry, physiology and pathology of the disease and the organ-system(s) affected by the drug.

**TEAM-BASED LEARNING (TBL)**

Some sessions in this course will be conducted as Team-Based Learning or TBL. The basic tenet of TBL is that students, functioning collectively in a small group, apply concepts to the solution of problems. A primary assumption of that tenet is that you have already mastered the content before you or, more specifically, your group is asked to apply the content to solve problems. The former occurs prior to class, whereas the latter occurs during class. Your mastery of the content is assured by an individual Readiness Assurance Test (iRAT), and mastery by your group is assured by a group Readiness Assurance Test (gRAT). Your group’s ability to work as a team to conceptualize content, consider evidence and derive solutions will be assessed by both its recorded responses and the extent to which it (you and the other members) can critically discuss your solutions as well as those of other groups. All three components of this process contribute to your grade. For the TBL sessions scheduled for the autonomies block, the individual assessment, group assessment, and group application, respectively, determine 20%, 20% and 60% of your grade.

It is important that you recognize that for TBL as well as other group activities in this course, your behavior not only impacts the learning outcomes for you personally but also those for your group and the class as a whole. You owe your peers the courtesy of contributing an honest effort and of participating in all aspects of such activities. In that regard, you will be asked – in fact, will be required – to participate in a Peer and Self Evaluation process for designated group activities in this course. (See PEER AND SELF EVALUATION for additional detail and for consequences of non-participation.)
**COURSE SCHEDULE**

The schedule for *Introduction to Pharmacology and Therapeutics* is, as is the schedule for the entire second year medical curriculum, derived through a concerted effort by all M-2 course directors and key members of the administration. The overall class schedule is such that a change in the scheduling for one course directly impacts all other second year courses. Accordingly, the schedule for *Introduction to Pharmacology and Therapeutics* will not be changed except under the most extenuating circumstances; it will not be changed simply for a matter of convenience.

If for some reason you feel that a change in the schedule is necessary, bring your concern to the attention of the pharmacology course directors. Please do not approach faculty in others courses about rearranging a scheduled lecture or examination in *Introduction to Pharmacology and Therapeutics* before conferring with and obtaining approval from the pharmacology course directors.

Invariable, however, one or more changes in the schedule will be necessitated. You will be notified of such changes by an announcement in class, on the Pharmacology Blackboard site, or through Outlook. A ‘current’ version of the schedule is posted on Blackboard under the ‘Course Information’ tab for the pharmacology course. The schedule for pharmacology is also incorporated into the M2 Weekly Class Schedule, and the latter will be revised as needed. Please take note that individual course schedules generally supersede the ‘Master’ class schedule. It is your responsibility to periodically check the pharmacology schedule to be certain that you are up-to-date.

**CLINICAL CORRELATIONS**

A number of clinical correlations are included in this course to offer a preview of how the basic pharmacology of specific drugs relates to clinical practice. These correlations will be conducted by clinical faculty and will be presented primarily from a clinical perspective. In most instances, a case history will be presented, and you will be called upon to discuss and make decisions related to diagnosis, treatment options and expected outcomes. For you to obtain the most benefit from these correlations, you will need to prepare in advance. Review the pharmacology of the drugs to be discussed as well as any other information you deem necessary to familiarize yourself with the general management of the patients or conditions to be presented. In keeping with the clinical atmosphere, some physicians will conduct the correlation as though it were rounds, singling out an individual and expecting an appropriate response.

**CLASS NOTES**

The Department of Pharmacology & Toxicology takes the position that individual faculty are not obligated to proof class notes. Most, if not all, faculty will do so, however, if asked. It is important that you understand that a review and subsequent approval of such notes by a faculty member (regardless of the means by which such approval is expressed) does not mean that the notes are complete. Approval will indicate only that material as presented in the notes is correct. Faculty might not (and should not be expected to) add to the notes material mentioned during lecture that has been omitted. Collectively, the faculty hopes that class notes represent a compilation of lecture and text material rather than a literal transcription of a taped lecture. We also caution against omission from class notes of information provided in handouts, even if it was not specifically emphasized in class. Handouts already reflect a distillation of information compiled from a number of different sources; if the faculty deems the material important enough to include in a handout, you should consider it important enough to include in the materials with which you prepare for an examination.
Although we understand the benefit of receiving class notes, we strongly recommend that you **do not depend upon class notes as your sole source of information** when preparing for an exam. Don’t give the responsibility for your performance in this course to the ‘note takers’ by permitting them to decide what lecture material is or is not important. **Come to class, pay attention and take your own notes.** Read and outline relevant chapters in the textbook.

**Class notes will not be taken as evidence as to whether or not a subject was addressed in class. Nor will class notes define the limits of testable material.**

**TESTING**

The purpose of testing is to provide a means of evaluating your knowledge of the facts and principles of pharmacology. We will endeavor to write questions that are straightforward and have an identifiable **BEST** answer. We will also endeavor to write questions that are representative of material that has been emphasized in class or material for which you have been specifically told you will be held responsible.

There will be six (6) tests plus a final examination in this course. Pharmacology questions may be short answer, multiple choice or matching. You might also be asked to interpret clinical, graphical or tabular data. Matching and multiple choice questions may have up to ten selections from which you must select the **single BEST** answer. Examples of pharmacology test questions are provided on Blackboard. Generally, there will be 3-4 questions per hour of content. The contribution of each test to your final grade is directly related to the total number of questions on that examination (e.g., a 100 question exam has twice the weight of a 50 question exam).

On some examinations, there will be ‘bonus’ questions for which you must apply your knowledge of pharmacology to a problem or clinical situation. There will be no penalty for not answering these questions, but points obtained on bonus questions will be added to your score on the examination.

As the pharmacology course progresses, you should reasonable expect test questions to become increasingly comprehensive. This will occur partially because the content presented later in the course will build upon content presented earlier. In addition, all pharmacology tests subsequent to test 1 will include some comprehensive questions. A minimum of 10% of the questions on pharmacology tests 2, 4 and 5 will be related to material previously tested; with the remainder being on ‘new’ material. The comprehensive components of pharmacology test 3 and 6 will be more extensive; with comprehensive questions making up 30-40% of each of those examinations. In that regard, test 3 and 6, respectively, will be comparable to a comprehensive mid-term and final examination. Specific content included as new material on any given exam is indicated on the pharmacology course schedule. You should also expect the questions to become increasingly complex and to integrate material from other first and second year courses.

The National Board of Medical Examiners’ Subject Examination in Pharmacology (aka, Pharmacology Shelf Board) will be the final exam, and it, by default, will be comprehensive.

For each hour of clinical correlation, you will be asked 1-2 questions in which you must perform one or more clinical tasks; e.g., make a diagnosis, recommend the next clinical test or prescribe treatment. These decisions will be based on what is presented in both the basic pharmacology lectures and the clinical correlation. Materials presented in clinical correlations **per se** will not be tested cumulatively.
You cannot assume that questions will merely reflect the factual content of the lectures. For all intents and purposes, the content of the required textbook and other ancillary material that might be provided define the minimal limits of testable material for this course. Lectures are intended to highlight information relative to a particular drug or class of drugs, ideally emphasizing what the lecturer perceives to be most important. Realistically, however, given the time restraints, the ever increasing number of drugs and the burgeoning amount of information related to various drug classes, the lecturer may feel that everything presented in class (or provided in a handout) is important...the lecture representing a succinct compilation of current knowledge of that drug or drug class. Moreover, you should realize that everything that is important about a drug or drug class cannot (and will not) be presented within the context of a 50 minute lecture. Even if the lecture is restricted to ‘general concepts’, understanding of those concepts and their integration across different areas of pharmacology and across different disciplines requires detailed knowledge of the systems affected and the mechanisms by which a drug acts. The learning of those details and integration of the underlying concepts is ultimately your responsibility.

You should approach each question as though there is a SINGLE BEST answer among the selections provided. All questions are reviewed by the faculty, and questions identified as inappropriate, misleading or otherwise invalid are removed prior to the examination. If you still have concerns about the format or content of a question, you are urged to make a note on your copy of the examination and to express those concerns to a proctor at the end of the testing period. You should also relay your concerns to the liaison committee (see EVALUATION below) and, if you wish, to the course directors. You are free to discuss your concerns with the appropriate faculty member as well. But, decisions concerning additional credit, alternate answers or validity of questions will be made only after the course directors have conferred with the appropriate faculty member and the liaison committee.

All students are encouraged to review pharmacology questions missed on examinations and to clarify the reasoning for the correct answers.

If you are excused or otherwise absent from a test, it is your responsibility to contact a course director as soon as possible to arrange a make-up test. Medical students must bring a written excuse from Dr. Clark; graduate students, a written excuse from their Department Chairman. The format and composition of the make-up examination will be determined by the course directors and the faculty involved.

It is your responsibility to bring #2 soft lead pencils to each test.

Effective 22 September, 1998, the Executive Faculty approved the addition of the following statement to the Academic Regulations in the School of Medicine: "For all examinations and subject national board examinations, students will only receive credit for answers that are properly recorded in the appropriate space on the answer sheet." This decision precludes correction of an answer sheet after an examination because of an error in transcribing your answers. During an examination, take special care to correctly transcribe your answers from the exam booklet to the answer sheet.

Examples of pharmacology test questions can be viewed under ‘Course Documents’ at the Pharmacology site on Blackboard.
TEST REMEDIATION

Students who fail (i.e., score below 70%) a pharmacology test have the opportunity to remediate their grade. The maximal grade that can be obtained through remediation is 70%, and only material not tested on a previous examination can be remediated.

A failing grade on a successfully remediated non-comprehensive exam will be replaced with a 70. The final grade on a successfully remediated exam consisting of both non-comprehensive and comprehensive questions will be determined by the proportion of questions on “new” and “old” material. The final comprehensive examination (i.e., the Pharmacology Subject Examination), outside assignments and quizzes cannot be remediated.

For remediation, the student must, for each question missed, submit in writing a rationale for the (incorrect) answer chosen as well as a brief justification of the correct answer within the context of the question. Information that you provide in your responses must by correct, and you may use whatever evidence-based resources you would like. All questions missed must be addressed. For example, remediation from 65% to 70% on a 100-question examination requires that all 35 questions missed be addressed; responding to only 5 of those questions is unsatisfactory. To successfully remediate an examination, the student must score 90% or better*, as determined by the faculty and course directors, on the written responses. If the student fails to do so, the original grade stands. There will be no opportunity for a second remediation of the same test. Written responses will be due one week after receipt of grades on a given examination, and they should be submitted to either a course director or the Pharmacology Office. Responses should be typed, and they may be submitted electronically.

*Please take note that simple submission of remediation for a failed test does NOT guarantee a passing grade. There must be clear evidence of an effort on your part to understand the content or concept addressed in the question; in the absence of such evidence, you will fail the remediation and your grade will stand. You are encouraged to speak with the course directors as well as specific faculty whose questions you are remediating to get some idea of their expectations.

Remediation is intended to be an individual effort. Although you are not forbidden to work with another who missed the same question, it is unlikely that you missed a question for the same reason or necessarily had the same incorrect answer. Your responses should reflect that individuality. As a precautionary note if you work on remediation as a group, be sure you agree with how someone else addresses questions you might have missed since you share the consequences of any incorrect or misleading responses. Examples of what the pharmacology faculty generally deems appropriate and inappropriate remediation are depicted on Blackboard.

Successful remediation of a test score to 70% does not preclude a student who fails one or more examinations in pharmacology from participation in the School of Medicine’s Academic Achievement Program. Please see the reference to the Academic Achievement Policy below.

Students who score 70% or better on an examination cannot use this mechanism to improve their grade.

ACADEMIC ACHIEVEMENT POLICY

A student who (prior to remediation) fails a pharmacology test or who would otherwise have an average below 70% in this course will be considered for mandatory participation in an Academic Achievement Program as stipulated by the School of Medicine’s Academic Achievement Policy.
That policy can be viewed on Blackboard at the M2 Curriculum site. Participation in the program is intended to aid you in the identification and development of skills needed to succeed in this course as well as the rest of your medical training.

**QUIZZES AND ASSIGNMENTS**

Faculty members may assign work to be completed outside of regularly scheduled hours for this course; often, these assignments will be indicated on the schedule, and hours of formal lecture will be reduced to compensate for time needed for completion of the assignments. Faculty may, at their discretion, also give unannounced quizzes as a means of formative evaluation, providing them and you with an assessment of your familiarity with material previously covered or to be covered in class. Scores on graded assignments and quizzes will be compiled throughout the course. Your performance on these exercises – on the basis of points obtained over total possible points – will be tallied into your overall test grade (See Grading below).

**GRADING**

Your performance (points correct/total points) on Tests 1-6, assignments, formative evaluations, TBL and other assessments of participation will determine 80% of your final grade. The weight of individual tests is proportional to the number of questions. Your score on the National Board of Medical Examiners Pharmacology Subject Examination will comprise the remaining 20%.

Your final grade will be calculated using the following equation, with all grades expressed as a percentage.

\[
\text{Final Grade} = \left( \frac{\text{Tests} + \text{Assignments} + \text{Formative Evaluations}}{\text{Total Points}} \right) \times 0.8 + \text{Final} \times 0.2
\]

*Note that the contribution of formative evaluations plus assignments to your final grade will not exceed 5%.

**PROFESSIONALISM**

The pharmacology faculty anticipates that you will conduct yourselves in a mature and professional manner and that inappropriate behavior during activities related to this course will not be an issue. Please take note that incidences of unprofessional behavior during class as well as during interactions with faculty or staff can be documented and become a permanent part of your student record. In the least, your behavior affects the perception that your peers and others with whom you interact have of you. Documentation of consistent inappropriate behavior can affect the Dean’s letter and your acceptance into a residency program. At the worst, unprofessional behavior such as cheating during an examination can be grounds for failure of this course and dismissal from medical school.

You can review the UMC School of Medicine Policy on Professional Behavior at the M2 Curriculum site on Blackboard. You should also note that as of the 2008-2009 academic year, the School of Medicine has adopted a student-derived policy on Professional Appearance that can also be reviewed at the M2 Curriculum site.

**PEER AND SELF EVALUATIONS**

Evaluation of your own performance as well as that of your colleagues will become an increasingly important – and required – part of your activities as you progress through medical training and become practicing physicians. For example, peer and self evaluations are structured into residency programs, licensure and certification procedures and continuing medical education
activities. Thus, in continuation of a process you began as first year students, there is also one occasion when you will be asked to complete an on-line Peer and Self Evaluation in this course.

Peer and self evaluations in this course are associated with the small group activities in which you will participate in autonomic (TBL sessions) and cardiovascular (outside assignment) pharmacology. This process will occur near the end of the fall semester. Specific information concerning access and completion of the evaluations will be forwarded to you through Outlook. You will be given a window of several weeks for completion of the evaluations, and completion is REQUIRED for a grade in this course. Also, information from the evaluations will become a permanent part of a professionalism portfolio that will be maintained throughout your medical training. Evaluations by your peers can affect your grade in the related activity, and as noted above, consistent exceptional behavior – good or bad – can have consequences on your professional development well beyond this course.

**REQUIRED TEXTS**

The required textbook for this course is the 4th edition of *Lippincott’s Illustrated Reviews: Pharmacology*, R.A. Harvey and P.C. Champe, editors; Lippincott, Williams & Wilkins, 2009.

**OTHER RESOURCES**

Additional resources include, but are not limited to:

- **The UMC Hospital Formulary**, on-line at http://www.formularyproductions.com/umc

Computer (internet) resources include:

- UpToDate and MD Consult. These online databases are available through the UMC Rowland Medical Library, which can be selected from the UMC home page (http://www.umc.edu) or the library web page (http://library.umsmed.edu).
- Drug Information/FDA. (http://www.fda.gov)
- Doctors’ Guide to the Internet. (http://www.pslgroup.com) - requires Flash 5

A number of Pharmacology Departments at other universities offer web-based instructional material which can be accessed through the home page of the appropriate institution or department. This material should mirror that presented in this course but might be organized in a manner that better compliments your learning style. In that case, please use these sites to your advantage. Also, please advise the course directors of formats you find particularly useful and which could improve this course.

These alternative sources of information are intended only to provide additional tools to facilitate your learning of pharmacology. They are not intended to supersede information given during lecture or in the primary text for this course. It is important that you realize that no textbook or other form of communication is absolutely free of error and that differences in materials between sources will undoubtedly be found. These differences may reflect a simple typographical error, a misstatement of fact, a difference in opinion or a difference in interpretation of data, but they
invariably result in information that is incorrect, misleading and confusing. As you take advantage of these and other resources, please bring any discrepancy with information presented in the primary text or during lecture to the attention of the appropriate faculty member or the course directors for clarification. **Such discrepancies should be clarified before an examination, and it is your responsibility to do so.** In any event, the appropriate faculty member, in consultation with the course directors, will be the final authority in clarifying any discrepancies that may arise.

**OUTLOOK and BLACKBOARD**

Information relevant to this course such as this syllabus and the class schedule can be obtained through Blackboard (http://elearning.umsmed.edu) within the UMMC intranet at the ‘Introduction to Pharmacology & Therapeutics’ site under ‘Course Information’. Drug lists, powerpoint slides and other handouts can be found by accessing ‘Handouts and Other Course Materials’, whereas assignments can be accessed under ‘Assignments’. General announcements will be made prior to class, through Outlook and/or through Blackboard.

For your information, the syllabus and schedule for pharmacology as well as all other second year courses are also available at the M2 Curriculum Blackboard Site, as is the M2 weekly class schedule.

**FACULTY AND STAFF**

Each member of the faculty of the Department of Pharmacology & Toxicology is committed to helping you learn pharmacology. Each of us has a true ‘open door’ policy. We encourage you to take full advantage of this policy and the attitude reflected by it. Please do not hesitate to ask us to clarify material for you during or after lectures. If you choose to come by our office, it may save you time and trouble if you call and make an appointment. We may not be immediately available because of other obligations.

The office and phone numbers of faculty and staff participating in Pharmacology 620 are

**Pharmacology Office** (R419)

Ms. Pam Banks (R422) ...............984-1600

**Course Directors**

Dr. Robert Kramer (N437) ........... 984-1604
Dr. Susan Wellman (R412) ........... 984-1631

**Other Faculty**

Dr. Rodney Baker (R413) ........... 984-1620
Dr. George Booz (R429) ........... 984-4401
Dr. Robert Cox (E002) ........... 984-5572
Dr. Roy Duhe (R406) ........... 984-1625
Dr. Jerry Farley (R) ........... 984-1630
Dr. Robert L. Galli (E049) ........... 984-5570
Dr. Anthony Gannon (MS135) ........... 984-5200
Dr. Elise Gomez-Sanchez (VA) .... 368-3844

Dr. Lillian Joy Houston (H848) .... 984-5826
Dr. Mary Kosek (S135) ........... 984-5200
Dr. Anna Lerant (SC) ........... 815-7485
Dr. Naila Mamoon
Dr. Mark Meeks (L510) ........... 984-5610
Dr. Charles Moore (HS) ........... 984-2253
Dr. Ian Paul (G114) ........... 984-5883
Dr. Rob Rockhold (U173) ........... 984-2810
Dr. Richard Roman (R418) ........... 984-1602
Dr. Donald Sittman (G225) ........... 984-1848
Dr. Stanley Smith (N401) ........... 815-1268

Extensions dialed on campus are preceded by 4 (984 extensions) or 5 (815 extensions).
COURSE EVALUATION

The School of Medicine and the faculty involved in this course rely on the input of the student body in the evaluation of our teaching program. To obtain an on-going assessment of *Introduction to Pharmacology and Therapeutics*, the following measurements will be taken.

1. At the beginning of the course, the class should form a liaison committee that will confer regularly with the course directors to discuss issues related to course content, faculty presentation, evaluation and student participation. The composition of the committee is left to the discretion of the class, and the manner in which the committee communicates with the directors is at the discretion of the committee or its representative.

   A major role of the liaison committee will be to relay concerns about particular test questions to the course directors and to participate in the final resolution of those issues. It is the responsibility of each student to submit concerns to the committee, and it is the responsibility of the committee, in turn, to compile the issues raised by the class and to submit them in writing to the course directors. All comments or other concerns voiced by the class regarding test questions should be included. The committee may make recommendations toward the resolution of concerns brought forward and may offer rebuttals to initial decisions made by the course directors. Such discussions can occur during formal meetings or through an exchange of e-mails. After due consideration of any recommendation from the liaison committee, final decisions concerning the outcome of specific questions rests with the course directors.

Just as importantly, the committee also has the responsibility to subsequently relay appropriate information back to the class.

2. A review of comments and concerns expressed on the School of Medicine Curriculum Evaluation web page accessed through the UMC intranet.

3. Evaluation of the course and faculty at the conclusion of each test block.

4. An evaluation by the Evers Society at the end of the course.

A valid assessment of *Introduction to Pharmacology and Therapeutics* can be obtained **ONLY** if all students participating in the course also participate in the evaluation process. Each of you is encouraged to give us your honest perception of the course. **Thoughtful, constructive comments and suggestions for improvement are welcome and will be appreciated.**

RICE-HOLLAND AWARD

The Rice-Holland Award in Pharmacology and Therapeutics is bestowed by the Department of Pharmacology and Toxicology to a student who has displayed exemplary performance in pharmacology and in basic or clinical research. An application for the Award can be obtained on the course Blackboard site under ‘Course Documents’. Applications can be submitted at any time.