Course Title: Clinical Management of Drug-Drug Interactions

Course Number: PHM 390K (Unique # 60017)

Credit Hours: 3

Location: E-REBL/Procedures Room

Faculty: Dr. Yasar Tasnif, Pharm.D., BCPS, FAST
EREBL 1.100.8
Cell – (206) 407-8395

Dr. Vicente Aparicio, Pharm.D.
EREBL 1.100.14
Office Phone – 956-665-7421

Meeting Times: Fridays, 9:00 - 10:30 a.m.

Office Hours: Office hours will vary, so please make arrangements with faculty to schedule time to meet.

Course Description:

This three-hour course is designed to provide the student with an understanding of clinically relevant drug-drug interactions, the significance and clinical management. Students will be working directly with the instructor of this course in a small group discussion based environment to promote learning.

Pre-Requisites for this Course:

Prior approval of the course instructor is required to register. Course may be repeated for credit.

Course Objectives:

Students are expected to complete book chapter readings, assignments, and journal article assessments. Course readings will be relevant to the pathophysiology of drug absorption, metabolism, bio-transformation, excretion, and interactions. Readings will also include case reports, guidelines and position statements regarding drug-drug interactions. Students are expected to take an active part in learning and teaching in this course.

Enrolled students will:

- Attend and actively participate in class and facilitate related activities
- Review and read course readings as assigned and be prepared to discuss and teach the group
- Identify a research question as assigned by the instructor and engage in literature review, and develop familiar with research methodologies
- Prepare a poster presentation (ex. case study) and/or lecture on the a drug-drug interaction topic, and present this at a conference meeting or to faculty and students
- Participate in a debate on a topic determined by the instructor
Required Textbook:

The required textbook for this course will be *The Top 100 Drug Interactions 2017: A Guide to Patient Management*, by Phillip D. Hansten, Pharm.D. and John Horn, Pharm.D..

Required Reading:

Students will also be assigned reading materials (textbook, journal, case studies or other materials) per instructor.

Suggested Reading:

*Applied Clinical Pharmacokinetics*, Larry Bauer (available online at the Clinic website, UT Austin).

Teaching Methods:

A variety of teaching methods may be employed including but not limited to discussions, lectures, case studies, demonstrations, audio-visual and on-line instruction. Students will also facilitate group discussions. Students are responsible for contacting instructors with questions or other academic needs pertaining to course materials. Clarification of course materials should be sought directly with the instructor.

Website and Communications:

- Accessible only to students registered in the course via Canvas at canvas.utexas.edu.
- UTeid and password required.
- Canvas will contain copies of PowerPoint slide presentations, learning objectives, case studies, readings, the course syllabus, and other course materials.
- Canvas will be used to distribute course materials, communicate and collaborate online, and to post grades.
- Course announcements may be posted in Canvas as an announcement or sent via the Canvas listserv as an email.
- Please keep your email address on the UT computer mainframe current at all times.

Attendance Policy:

Students are expected to meet with the instructor at least weekly on a routine basis. Meeting times are to be scheduled in advance with the instructor. Students are expected to participate in any group or web-based activities required by the instructor. The student will be held responsible for all course materials regardless of attendance. It will be left to the discretion of the instructor whether make-up opportunities will be made available for those who miss attendance or an associated activity. Any changes and or cancellations (other than emergencies) are to be made in advance and with the instructors consent. Request for excused absences should be made directly to the course coordinator. Instructors may make accommodations for students with approved absences.

Religious Holy Days:

By UT Austin policy, you must notify the instructor of your pending absence at least fourteen (14) days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.
Assessment

Student assessment will be evaluated by attendance in meetings with the faculty member, participation in assigned activities, completion of assignments, presentation, lecture, and debate.

Grading/Assessment Points

Attendance and Participation – 40%
Presentation/Poster and Debate – 40%
Completion of Readings/Research Assignments – 20%

Grading Scale

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<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>90-100%</td>
</tr>
<tr>
<td>B</td>
<td>80-89%</td>
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<tr>
<td>C</td>
<td>70-79%</td>
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<tr>
<td>D</td>
<td>60-69%</td>
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<td>F</td>
<td>≤ 59%</td>
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Examinations

There will be no examinations. See Assessment for grading details.

Professionalism:

It is an expectation that all students will demonstrate professionalism in all aspects of this course. Respect for others should be demonstrated during discussions, and in completed assignments. Any conduct deemed unprofessional will be dealt with in accordance to policies of the College of Pharmacy and The University of Texas. Failure to act professionally could result in failure of this course.

Scholastic Dishonesty:

• Students are expected to work independently on examinations.
• Any student engaging in academic dishonesty will be given an appropriate penalty, including possible failure of the course.
• Any case of academic dishonesty will be reported to the Dean?s Office of the College of Pharmacy and to the University Dean of Students, as per University regulations.
• Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University.
• Since such dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced.
• Also, you should refer to the Student Judicial Services website at http://deanofstudents.utexas.edu/sjs/ to assess the official University policies and procedures on scholastic dishonesty as well as further elaboration on what constitutes scholastic dishonesty.

Common examples of scholastic dishonesty include, but are not limited to, the following:

1. Looking at and copying answers from another student?s exam or quiz paper.
2. The use of crib notes or crib sheets.
3. Writing information for testing purposes on concealed paper, desks, skin, clothing or other material.
4. Stealing copies of the exam.
5. Changing answers after the exam period is completed. Use of programmable calculators or computers for concealing information.
6. Talking to another student during an exam or quiz.
7. Any other act which gives a student an unfair advantage on an exam or quiz as compared with classmates.

**Student Rights & Responsibilities:**

- You have a right to a learning environment that supports mental and physical wellness.
- You have a right to respect.
- You have a right to be assessed and graded fairly.
- You have a right to freedom of opinion and expression.
- You have a right to privacy and confidentiality.
- You have a right to meaningful and equal participation, to self-organize groups to improve your learning environment.
- You have a right to learn in an environment that is welcoming to all people. No student shall be isolated, excluded or diminished in any way.

With these rights come responsibilities:

- You are responsible for taking care of yourself, managing your time, and communicating with the teaching team and with others if things start to feel out of control or overwhelming.
- You are responsible for acting in a way that is worthy of respect and always respectful of others. Your experience with this course is directly related to the quality of the energy that you bring to it, and your energy shapes the quality of your peers’ experiences.
- You are responsible for creating an inclusive environment and for speaking up when someone is excluded.
- You are responsible for holding yourself accountable to these standards, holding each other to these standards, and holding the teaching team accountable as well.

**Personal Pronoun Preference**

Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student’s legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records.

**University Policies**

**Academic Integrity**

Each student in the course is expected to abide by the University of Texas Honor Code: “As a student of The University of Texas at Austin, I shall abide by the core values of the University and uphold academic integrity.” **Plagiarism is taken very seriously at UT.** Therefore, if you use words or ideas that are not your own (or that you have used in previous class), you must cite your sources. Otherwise you will be guilty of plagiarism and subject to academic disciplinary action, including failure of the course. You are responsible for understanding UT’s Academic Honesty and the University Honor Code which can be found at the following web address: [http://deanofstudents.utexas.edu/sjs/acint_student.php](http://deanofstudents.utexas.edu/sjs/acint_student.php)
Q Drop Policy

If you want to drop a class after the 12th class day, you’ll need to execute a Q drop before the Q-drop deadline, which typically occurs near the middle of the semester. Under Texas law, you are only allowed six Q drops while you are in college at any public Texas institution. For more information, see:  
http://www.utexas.edu/ugs/csacc/academic/adddrop/qdrop

University Resources for Students

Your success in this class is important to me. We will all need accommodations because we all learn differently. If there are aspects of this course that prevent you from learning or exclude you, please let me know as soon as possible. Together we’ll develop strategies to meet both your needs and the requirements of the course. There are also a range of resources on campus:

Services for Students with Disabilities

This class respects and welcomes students of all backgrounds, identities, and abilities. If there are circumstances that make our learning environment and activities difficult, if you have medical information that you need to share with me, or if you need specific arrangements in case the building needs to be evacuated, please let me know. I am committed to creating an effective learning environment for all students, but I can only do so if you discuss your needs with me as early as possible. I promise to maintain the confidentiality of these discussions. If appropriate, also contact

Services for Students with Disabilities, 512-471-6259 (voice) or 1-866-329- 3986 (video phone).  
http://ddce.utexas.edu/disability/about/

Counseling and Mental Health Center

Do your best to maintain a healthy lifestyle this semester by eating well, exercising, avoiding drugs and alcohol, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress.

All of us benefit from support during times of struggle. You are not alone. There are many helpful resources available on campus and an important part of the college experience is learning how to ask for help. Asking for support sooner rather than later is often helpful.

If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, we strongly encourage you to seek support.  http://www.cmhc.utexas.edu/individualcounseling.html

The Sanger Learning Center

Did you know that more than one-third of UT undergraduate students use the Sanger Learning Center each year to improve their academic performance? All students are welcome to take advantage of Sanger Center’s classes and workshops, private learning specialist appointments, peer academic coaching, and tutoring for more than 70 courses in 15 different subject areas. For more information, please visit  http://www.utexas.edu/ugs/slc or call 512-471-3614 (JES A332).

Undergraduate Writing Center:  http://uwc.utexas.edu/  
Libraries:  http://www.lib.utexas.edu/  
ITS:  http://www.utexas.edu/its/  
Student Emergency Services:  http://deanofstudents.utexas.edu/emergency/
Important Safety Information:

If you have concerns about the safety or behavior of fellow students, TAs or Professors, call BCAL (the Behavior Concerns Advice Line): 512-232-5050. Your call can be anonymous. If something doesn’t feel right – it probably isn’t. Trust your instincts and share your concerns.

The following recommendations regarding emergency evacuation from the Office of Campus Safety and Security, 512-471-5767, [http://www.utexas.edu/safety/](http://www.utexas.edu/safety/)

Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.

- Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.
- Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.
- In the event of an evacuation, follow the instruction of faculty or class instructors. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.
- Link to information regarding emergency evacuation routes and emergency procedures can be found at: [www.utexas.edu/emergency](http://www.utexas.edu/emergency)
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<th>Date</th>
<th>Topic (May be Adjusted as Determined by Instructor)</th>
<th>Presenter</th>
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| Week 1 – January 19   | Introduction to Course: Syllabus review, expectations for the Course, and review of drug information resources  
• Drug levels to ensure efficacy of narrow therapeutic index drugs                                                                                                             | Instructors                                                              |
| Week 2 – January 26   | Organ systems overview and basic concepts:  
• Sites for drug-drug interactions (stomach, small intestine, liver, and kidney)  
• PK concepts and definitions such as AUC, drug exposure, MIC and therapeutic index, enzyme affinity and substrate inhibition | Instructors                                                              |
| Week 3 – February 2    | Interactions that can occur in the stomach  
• Chelation (Levaquin and divalent cations); PPIs and interactions with antimalarials, HIV medications, and anti-Tb medications.  
• Clinical management of these interactions/Cases                                                                 | Dr. Tasnif / Student facilitation and Case Presentation                    |
| Week 4 – February 9    | Interactions that can occur in the small intestine  
• P-gp, CYP systems, enterohepatic recycling  
• Cyclosporine and ketoconazole; Digoxin and amiodarone interactions  
• Clinical management of these interactions/Cases                                                                 | Dr. Aparicio / Student facilitation and Case Presentation                  |
| Week 5 – February 16   | CYP System Interactions (3A4, 2C9, 2C19, 1A2)  
• Clinical management of these interactions/Cases                                                                                                                                 | Dr. Tasnif / Student facilitation and Case Presentation                    |
| Week 6 – February 23   | CYP System Interactions (3A4, 2C9, 2C19, 1A2)  
• Clinical management of these interactions/Cases                                                                                                                                 | Dr. Aparicio / Student facilitation and Case Presentation                  |
| Week 7 – March 2       | Drug food interactions  
• Increase and decrease in absorption with food  
• Atovaquone  
• Itraconazole  
• Chocolate milk and cyclosporine  
• Cases                                                                                                                                  | Dr. Tasnif / Student facilitation and Case Presentation                    |
| Week 8 – March 9       | Substrate inhibition and CYP3A4  
• Ritonavir  
• Erythromycin  
• Grapefruit juice  
• Statins  
• Cases                                                                                                                                    | Dr. Aparicio / Student facilitation and Case Presentation                  |
| Spring Break (No Class)|                                                                                                                                                                                                                                                                         |                                                                           |
| Week 9 – March 23      | Induction  
• Rifampin, Phenytoin, Carbamazepine  
• Clinical management of these interactions  
• Cases                                                                                                                                                                                                         | Dr. Tasnif / Student facilitation and Case Presentation                    |
| Week 10 – March 30     | Warfarin Interactions and management                                                                                                                                                                                                                   | Dr. Aparicio                                                              |
| Week 11 – April 6      | Herbal and OTC Interactions                                                                                                                                                                                                                           | Dr. Hernandez                                                             |
| Week 12 – April 13 to May 2 | Debate and Topic Presentations                                                                                                                                                                                                                      | Student Presentation                                                     |