

CHEM 4410: Organic Medicinal Chemistry

Spring 2018

Instructor: Dr Anne Gaquere-Parker, agaquere@westga.edu, TLC 2-119, Ph: 678-839-6026

Class time: T, R: 12:30 pm – 1:45 pm, TLC 2-105

Office Hours: T, R: 8.15 am - 9.15 am and 10.45 am - 12.15pm, W: 9.00 am – 2pm

Course Outline

This course will discuss topics in medicinal chemistry. It will help students understand a professional medicinal chemistry lecture as presented in conferences such as the ones of the American Chemical Society. It will also inform students about the field in order to prepare them for medical or pharmaceutical or veterinarian school. Content knowledge will be acquired using power point notes, assigned readings, case studies, student presentations and short videos. Participation is crucial and students will be asked on a very regular basis (almost every class time) to briefly present a topic on medicinal chemistry to the rest of the class.

Learning Outcomes

After successful completion of the course, the student will be able to:

- describe the history of drug discovery and the modern drug discovery process and the regulations mandated by FDA
- describe the relevant biochemical facts related to drug targets (enzymes, receptors and oligonucleotides)
- evaluate drug activity based on pharmacology, pharmacodynamics and pharmacokinetics
- examine metabolic pathways for drugs and the role of molecular structure in lead discovery
- present to an audience medicinal chemistry case studies and summaries of reading assignments

- critically evaluate the different lead optimization methods

Materials and requirements

Medicinal chemistry: the modern discovery process, Erland Stevens, Pearson, ISBN-13: 978-0-321-71048-2, 2014

Documents will be uploaded on D2L/courseden. Check on a regular basis for updates.

Grading

The final grade will be based on: meaningful participation/daily discussions/short presentations/homework (25%), 3 in-class exams plus the final comprehensive exam (15% each for a total of 60%), final oral presentation (15%, divided as 10% final presentation and 5% for rough draft with annotated bibliography due Wednesday February 21st, 8am).

➤ 90%: A, 80 – 89%: B, 70 – 79%: C, 60 – 69%: D, < 60%: F

Late submission: Unless an extension is granted under very special circumstances and well in advance, 10 points will be deducted by day an assignment is turned in after the due date.

Exams: Students will take 4 in-class proctored exams (3+final) covering the materials studied in the course either with the reading assignments, power point, case studies or videos. The final is comprehensive.

Final Presentation: All students are required to attend other students presentations as questions on the final exam may include topics covered during the presentations. The topic chosen by the student has to be approved by the instructor.

Communication: Communication will be done through my.westga.edu email address.

Extra credit: There is no extra credit opportunity in this class.

Policy on Cheating/ Plagiarism

Cheating and/or plagiarism will not be tolerated in this course and will result in a failing grade for the assignment, exam and/or the class. No electronic device will be allowed during the proctored

exams (cell phone, text messenger...). Blatant examples of cheating include using books, notes, or other sources not expressly allowed during exams; copying on homework, assignments; using any form of assistance if instructed to produce work individually; and knowingly assisting another student to engage in any of these behaviors. Examples of plagiarism include failing to cite written material that is directly quoted or paraphrased from another source, or failing to give credit for use of other's ideas, pictures, graphs, diagrams, or figures. Plagiarism can be avoided by following the rules for citation.

Tentative schedule:

1st exam: chapters 1, 2, 3 and 4: Tuesday February 6th

2nd exam: chapters: 5, 6, 7, 8: Tuesday March 6th

3rd exam: chapters: 9, 10, 11, 12, 13: Thursday April 12th

Final comprehensive exam: Thursday, May 3rd, 11:00 am-1:00 pm

Oral presentations: starting Tuesday April 17th until Thursday April 26th: attendance mandatory