Welcome to

Chem 342 – Organic Chemistry II

Spring, 2022

Instructor and Office Hours

- **Dr. Rui (Ray) Zhang**

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- **Office hours:** TR 9:00 to 11:00 am, **Walk-in or by appointment**

Course Description

- Broad insight into various kinds of organic molecules (alcohols, aromatic and carbonyl compounds, their derivatives).
- More important organic reactions are introduced, and the more complex mechanisms of reactions are described.
- How to apply underlying principles that allow us to understand, and predict reactions?
- How to plan the synthesis of new compounds and materials that even do not exist in Nature? (power of Organic Synthesis)
- How organic chemistry works in Nature ?

Specific Skills you need to build up

- Propose a mechanism
- Predict products with correct stereochemistry
- Plan a synthesis (Retrosynthesis)

Required Books and Materials

- "Organic Chemistry" **by Solomons, 11th Ed or higher Ed.**
- "Study Guide / Solutions Manual"
- **ACS Study Guide for ACS Exams**
- **Organic Chemistry (II) as a Second Language**" by **David R. Klein**
- Molecular model kit

Subject Materials

- Chapters 10-19 of the text will be covered in same sequence.
- All required materials are included in my teaching note.
- No detailed schedule of lectures is provided.

Reading Assignments and Problem Solving

- **It is impossible to overemphasize the importance of working problems as a way of learning organic chemistry — it is the *only* way.**
- **10 Problem sets from Achieve Online Homework will be assigned for each chapter and graded!**
- **A self-test (multiple choice) after each chapter will also be assigned to help your understanding, but *not* collected.**
- **9 Honors Assignments will be available on Blackboard!**

Blackboard

- Announcements, teaching notes, practice problems, old test and answer keys, and grade curve will be posted at that site in PDF files. Review recordings will also be available!

- Due to the convenience of Blackboard, I will not distribute any handouts in class (except in-class quizes)

- Check blackboard frequently and keep yourself posted!

Class Attendance

- ***Our attitude determines our altitude*.**
  Show up for every class.

- **Simply appearing for class in an upper level course will not suffice for a passing grade.**

- **Excessive and non-excused absences (7 or more) will result in a failing grade.**

Grading

- This course will be graded on a *curve*. Approximate grade cut-offs will be announced after each exam.

- Quiz Section (10 x 10) 100 points
  Homework (10 x 10) 100
  Mid-term Exams (4 x 100) 400
  ACS Exam (mandatory) 100
  Total 700 points

- Extra points
  Significant improvement (> 20 points higher) in the course of study, reflecting from your latest Test's score (10 points)
  Bonus questions in each exam
  Adaptive Quizzes on Achieve

Exam Dates

Feb 22 (T), Exam 1 (Chapters 10-12)

March 22(T), Exam 2 (Chapters 13-15)

April 12(T), Exam 3 (Chapters 16, 17)

April 28(R), Exam 4 (Chapters 18, 19)

- **ACS Final Exam (cumulative from Org I and II)**

May 2 (M) from 8:00 to 10:00 am at SH 4114

Makeup and Regrading

- It is required for everyone to take the exam at the scheduled time. (See me for accepted excuses prior to the exam if you request a makeup)

- ***No regrading and no partial credit!***

  I will make every effort to ensure that your work is graded carefully and fairly, and that your scores are entered accurately in my records.

How to Study Organic Chemistry II

- **Understanding** (instead of memorizing) the fundamental ideas that underlie all reaction is most important!
- Keep up your study day to day!
- Apply and test your knowledge in practice!
- Share good experience (group study)!
- Ask questions! Give your suggestions!

Tips for Organic Chemistry Study

- **Organic Chemistry is all about recognizing patterns and getting into the habit of using a very small number of basic electrons moves;**
  1. **Nu attacking E**
  2. **LG leaving**
  3. **Proton transfers**
  4. **Rearrangements**

- **It is my intention to greatly simplify organic chemistry for you by building the material into little bite-sized packages that are very easy to master.**

Review of Basics from Organic Chemistry I

- **Resonance**
- **Acids and Bases**
- **Nucleophiles and Electrophiles**

A tutorial containing above concepts is posted on Blackboard!

Golden Rules in Organic Chemistry Class

- **No pay, no gain !**
- **Never give up !**
- **Try harder and think deeper !**

Although the adventure that you are about to undertake may seem long, hard and sometimes tedious, it leads to a fascinating goal and will provide rich intellectual satisfaction and benefit for the traveler who work hard along the way !