

CHEMISTRY 232

CHE 232, Organic Chemistry II (3 credit hours), Spring 2010

Course Description: A continuation of CHE 230. Prerequisite (**this is not a joke**): CHE 230.

Course Information:

- * **Instructor:** John Anthony
- * **Office:** CP-027 / **Phone:** 257-8844 / **Email:** anthony@uky.edu
- * **Office Hours:** I will generally be in my office for the hour before class (T-Th, 8:30 – 9:30).
Otherwise, by appointment.
- * **Meeting Time:** T,Th at 9:30 am in CP 139. **Attendance is mandatory.**

Course Materials:

Required Text: *Organic Chemistry, 2nd edition*, by Smith.

Recommended Study Aids:

- * the Solutions Manual to your textbook (don't just look at the answers and assume you can do the problems!).

TENTATIVE EXAM SCHEDULE (all exams are in-class):

February 9, covering Chapters 15 – 19

March 9, covering Chapters 20 - 22

April 8, covering Chapters 23 – 24

FINAL EXAM: Cumulative, plus Chapters 25, 14 and 15, THURSDAY MAY 6 at **8:00 am**.

Please note – we are covering the textbook chapters out of order.

Examinations

There will be three in-class exams (100 points each), and one two-hour final (200 points). Note that each in-class exam is designed to take 50 minutes – but you will not be penalized for taking the full 75 minutes to complete the exam. *This does not mean that you can show up late to an in-class exam.* **All** exams are cumulative, which means that subjects covered on an earlier exam (or even in CHE 230) *will* appear on later exams. If you wish to have an hour exam re-graded, please submit it to me with a brief explanation of what you would like to be re-graded, *within one week of the return of the exam.* **Missed Exams:** A student who has legitimately missed an exam because of a documented, excused absence that conforms to the University Senate Rules will simply have 300 total possible points, rather than 400. Students with two such absences will have their final exam count as 200 points instead of 100. Students who miss three or more exams or the final exam for any reason will receive an "E" unless the dean of their college permits them to withdraw. Students who miss an exam without an excuse will receive a zero for that exam.

Grading

A total of 500 points are awarded in this course: 100 for each of the three fifty-minute exams, and 200 for the *required* final exam. The assignment of grades will be based on the following *percentages* A = 100 – 80%: B = 79 – 70%: C = 69 – 60%: D = 59 – 50%. Typically the class earned average is solidly in the 60% range.

Academic Integrity

Cheating and plagiarism will not be tolerated, and the *minimum* penalty for cheating is a grade of 0 on the exam. 'Nuff said.

Course Objectives

This course is the second part of a two-part introduction to the principles of organic chemistry, the chemistry of the compounds of carbon. You should have already learned the nomenclature of organic compounds, and the chemistry of simple organic compounds (such as hydrocarbons), along with some basic reactions, transformations and mechanisms. This course will expand upon that knowledge, introducing you to the more complex reactions and systems, the remarkable aspects of molecules with a high degree of unsaturation (polyenes and aromatic compounds), and highly functionalized systems (alcohols, amines, esters, amides, nitriles). There is a lot of material to cover, so **it is essential that you keep up-to-date**. Attend lecture! Take notes! At a *minimum*, you should try to read the chapter we are covering BEFORE you come to lecture. At the end of each week, you should understand the material presented during that week and have worked the accompanying problems. Organic chemistry will severely test your ability to reason and think analytically. There is no *easy* way to acquire these skills: Only practice actually WORKING PROBLEMS will get you through the course. I will be more than happy to help you work through problems from the text or otherwise during my office hours or by appointment, or even in class if you ask, but you need to have at least read the text and *tried* the problems beforehand.

Important notes

The textbook adopted for this class goes much too far into specifics in many topic areas. We'll discuss some of the issues in class. However – there are certainly some textbook sections you can skip completely without harm (and may add the benefit of not cluttering your brain with useless information):

Textbook sections to skip:

Chapter 15: 15.8, 15.9, 15.14

Chapter 19: 19.5, 19.6, 19.12, 19.14

Chapter 20: 20.5, 20.6

Chapter 22: 22.12, 22.16, 22.17

The textbook covers a very broad swath of organic chemistry. As you read, *please focus first on mechanism!* You will do much better in this class if you understand the “why” aspects of the chemistry, rather than just memorizing a bunch of chemical reactions.

Suggested End-Of-Chapter Problems.

The following problems are the ones that will best prepare you for your exams. If you wish to work more than these recommended problems, it would certainly be helpful. Any problem that is underlined is one that I found particularly interesting.

Chapter 15: 36, 38, 40, 45, 46, 48, 55, 56, 60d, 63, 71, 72

Chapter 16: 28, 30, 33, 35, 40, 43, 44, 47, 51, 55, 56, 57

Chapter 17: 28, 29, 30, 31, 33, 37, 53, 54

Chapter 18: 34, 35, 38, 39, 44, 47, 48, 50, 57, 58a&g, 64, 65

Chapter 19: 32, 33, 34, 35, 42, 44, 63

Chapter 20: 40, 41, 43, 47, 48, 53, 54, 57, 60, 66

Chapter 21: 48, 51, 52, 66, 68, 71, 72, 74, 76, 77, 79, 87

Chapter 22: 47, 52, 53, 58b, 62, 63, 72

Chapter 23: 29, 32, 38, 40, 42, 44, 47, 51, 53, 57, 63

Chapter 24: 26, 29, 31, 35, 37, 38, 48, 49, 53, 54, 60, 62

Chapter 25: 56, 62, 63, 64, 66, 69b, 70, 74, 85