CHEM 352, Summer 2015

Organic Chemistry II

Lecture: Tuesday, Thursday, and Friday, 9:00-11:15, BIOL 101 (LH1)

Instructor: Dr. Paul Smith, 405B MEYR, phone: x52519, e-mail: pjsmith@umbc.edu

Office Hours: Mondays and Wednesdays, 12:00-1:00 and by appointment

Text: David Klein "Organic Chemistry", Wiley: Hoboken, NJ, 2012.

Prerequisite:

CHEM351 or its equivalent is a prerequisite for this course. You will not be given credit for this course if you have not completed this prerequisite with a grade of C or better. If you think there may be a problem, see Dr. Smith immediately after class.

Objectives: Students successfully completing this course will:

- understand the theory behind infrared spectroscopy, mass spectrometry, NMR spectroscopy, and ultraviolet/visible spectroscopy, and be able to interpret spectra of each type to gain insight into molecular structure.
- recognize functional groups in organic compounds and be able to predict how these impact a compound's physical properties and reactivity.
- be able to name organic compounds and provide a structure given a compound name.
- be able to describe organic reactions using "arrow-pushing" formalisms (mechanisms), reaction coordinates, and depiction of transition state structures.
- be able to predict products of selected organic reactions and to suggest reactions that can be used to effect specific structural transformations, including multi-step syntheses.
- be familiar with the concept of aromaticity, know how to predict if a compound will be aromatic, and to understand how aromaticity affects chemical reactivity.

Syllabus: Chapters 14 to 23 will be covered in sequence, as outlined below:

Chapter 14: Ethers and Epoxides; Thiols and Sulfides
Chapter 15: Infrared Spectroscopy and Mass Spectrometry
Chapter 16: Nuclear Magnetic Resonance Spectroscopy
Chapter 17: Conjugated Pi Systems and Pericyclic Reactions
Chapter 18: Aromatic Compounds
Chapter 19: Aromatic Substitution Reactions
Chapter 20: Aldehydes and Ketones
Chapter 21: Carboxylic Acids and Their Derivatives
Chapter 22: Alpha Carbon Chemistry: Enols and Enolates
Chapter 23: Amines

Exams: Three one-hour exams will be held during the semester, as well as a comprehensive final exam at the end of the semester. The dates for these exams are as follows:

Exam 1:	Friday, July 17th, 9:00AM, LH1
Exam 2:	Thursday, July 30th, 9:00AM, LH1
Exam 3:	Tuesday, August 11th, 9:00AM, LH1
Final:	Friday, August 14th, 9:00AM, LH1

Grading: Your final grade will be determined out of a possible 450 points as follows:

In class exams: 100 points each (300 points total)
Final exam: 150 points

For your final grade in the course, a final average of 85% is a guaranteed A, a final average of 75% is a guaranteed B, and a final average of 60% is a guaranteed C. Dr. Smith reserves the right to lower (but not raise) these cutoffs at the end of the semester.

Problems from the Text: Homework problems from the book will be recommended on Blackboard; these will not be turned in but are meant to help you to gauge your progress in the course and to aid in preparation for exams. You need to be comfortable with ALL the recommended problems, as similar problems can be expected on exams. You are also encouraged to try the problems that are not in the "recommended problems" list. You can never do too many problems in Organic Chemistry. **Note** - do not abuse your study guide. You should refer to it only after you have arrived at what you think is a reasonable answer. If you are unsure of the answer to a question, consult your class notes and/or the relevant section of the textbook, NOT THE STUDYGUIDE.

Advice for Success: Success in this course requires sustained effort. Practicing writing out structures and working problems is absolutely essential. You should expect to spend a minimum of six hours studying (reading, working problems) outside of class per lecture. Forming small study groups (of three or four people) will prove very useful, but make sure that you try the problems on your own first. Extra help is available in the Chemistry Tutorial Center (CTC). Also, read the material from the text BEFORE I talk about it in lecture - it will make my lectures much more useful and it will empower you to ask questions.

Chemistry Tutorial Center

Times for tutoring groups will be announced via email/Blackboard.

Academic Integrity

By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Cheating and helping others to cheat constitute academic dishonesty and are wrong. Such academic misconduct could result in disciplinary action including, but not limited to, suspension or dismissal. To read the full Student Academic Conduct Policy, consult the UMBC Handbook, the Faculty Handbook, or the UMBC Policies section of the UMBC Directory.