Assignment I. Chem 3045x September 8, 1999

This assignment is due Monday, September 13, in class.

Reading and homework assignments for the first three chapters in the course text, F. A. Carey, "Organic Chemistry", 3rd Edition are given below. The answers to the assigned homework are given in F. A. Carey and R. C. Atkins, "Study Guide and Solutions Manual to Accompany Organic Chemistry," 3rd Edition. Homework assignments will be discussed in recitation section or by appointment with the Instructor or the Teaching Assistant. Appointments are made most easily by using e-mail.

Important comment on homework. You should expect to spend 3-6 hours a week studying the material in the text and doing the homework problems. You are required to hand in the homework by the class meeting of the assigned due date. Since the solutions manual is available, you should check it for solutions after spending a few minutes on the problem. If you find that you have mastered a multicomponent problem, you don't have to do all of the components and can move on to the next assigned question. As you read the Chapters, please make notes concerning any material or issues that you would like to discuss. Your suggestions will be collected and discussed in class and in a course Newsgroup or email.

Chapter 1. Chemical Bonding. This Chapter is a review of chemical bonding in molecules. It is expected that the class has been exposed to most or all of this material. Emphasis will be on the rules for writing Lewis molecular structures, resonance, electronegativity, formal charges and hybridization.

Assignment for Chapter 1:
Reading: Entire Chapter.
In Chapter Problems: 1.1, 1.2, 1.6, 1.7, 1.9, 1.10, 1.11, 1.14, 1.15, 1.17, 1.19.
After Chapter Problems: 1.20-1.24, 1.27-1.34, 1.37, 1.38, 1.40, 1.41, 1.43, 1.46, 1.47

Recommended. If you know how to use Netscape (the entire class will be trained in how to use it at the recitation section next Wednesday, September 15) visit the Course Home Page and click on the course text icon which is a hot link to a slide show of the materials in Chapter 1 and material on the world wide web illustrating many of the concepts of Chapter 1. You will need Pursuasion Player as a Netscape plugin to view the slides on your PC. The slide show will also be available on the Mac computers in room 308 Havemeyer by next week. You can get to the course home page using one of these routes: (1) go to the Columbia Home Page on the Web, click on the courses button on the left, click on the courses selection on the page that comes up, select Chem 3045, which will bring you to our course Home Page; or (2) type in the course Home Page address (http://www.columbia.edu/itc/chemistry/chem-c3045/) in the location box and hit "return".
Assignment for Chapter 2:

Chapter 2. Alkanes. This chapter deals with the chemistry of one of the simplest families of organic compounds called alkanes. We shall be interested in learning and understanding the structure of alkanes and how that structure relates to their physical and chemical properties. In fact, understanding structure-property relationships of all organic compounds will constitute one of the most important goals of the course. Structure is the intellectual map which will allow the class to navigate through the forest of information that makes up the field of organic chemistry. Familiarity and fluency in dealing with representations of organic structures (Lewis structure, molecular geometries, molecular models) is as important for understanding organic chemistry as are familiarity and fluency in vocabulary and grammar, for success in understanding a language.

Readings: 2.1-2.12, 2.12, 2.16, 2.18, 2.19
In Chapter Problems: 2.4
After Chapter Problems: 2.18, 2.25, 2.30, 2.31, 2.38, 2.39, 2.42, 2.43, 2.44

Recommended: Visit the slide show on Chapter 2 on the web or in 310 Havemeyer.