

## CHEM 330

### Information for Students

Fall, 2015

**Chem 330** focuses on current methods of C–C bond formation, primarily through enolate and cycloaddition chemistry, and on other fundamental aspects of modern synthetic organic chemistry.

**Instructor & office hours.** Dr. Marco A. Ciufolini (office: Chemistry A331) is in charge of the course. This instructor has no fixed office hours. Please make an appointment by e-mail (ciufi@chem.ubc.ca) whenever you need to see him. Sporadic drop-ins are OK.

**Classes** are scheduled on MWF at 8:00 am in room CHEM D-300.

**Website.** The course website may be found at:

<http://groups.chem.ubc.ca/chem330/>

**Prerequisites.** The instructor presumes that you are familiar with fundamental concepts of general chemistry and introductory organic chemistry, especially:

*general chemistry*

- oxidation states, formal charges, etc.
- thermodynamics:  $\Delta H$ ,  $\Delta G$ 's, etc.
- acid-base equilibria (pK<sub>a</sub>'s, etc.)

*organic chemistry*

- elementary organic reactions
- stereochemistry & conformational analysis
- fundamental reaction mechanisms

Please take some time to review these important concepts. Useful reviews on oxidation states, formal charges, and pK<sub>a</sub>'s are posted on the course website (click on "handouts" to access these documents).

**Book.** No book is required for this course. A good deal of material, including summaries of lectures, "handouts," etc., will be placed on the course website. If you wish to read more about the material presented in class, you may consult any good advanced organic chemistry textbook, such as Carey-Sundberg or March. If you wish to purchase a book, I recommend March over Carey-Sundberg. An investment in March will pay off handsomely in the future, especially for those of you who wish to become organic chemists.

**Molecular models.** We will frequently deal with stereochemical aspects of organic reactions in this course. Therefore, it is essential that you obtain a set of molecular models to help you visualize and understand the stereochemical properties of the molecules / reactions that we will encounter.

Any good set of molecular models will do. However, it is recommended that you obtain a set of Darling models. These inexpensive models are especially suited to the study of organic chemistry.

**Studying.** This course covers a great deal of **difficult** material. It is important to review your notes promptly after each class and resolve ambiguities without delay. Do not fall behind!! If you encounter a confusing point, please see the instructor to clear things up as soon as possible.

We will learn a large number of important chemical reactions in this class. It is essential that you – especially those of you who are considering a career in organic chemistry – learn and retain this information. One method that works wonders in that respect is to create a card index of chemical reactions. Each time you encounter a new reaction, make a 3x5 card for it. On the front of the card, write the name of the reaction and draw a chemical equation that shows an example thereof. On the back of the card, write its mechanism (curved arrows and all).

Review this card file every now and then and you will be amazed to see how fast you'll learn these fundamental transformations of organic chemistry.

**Problems sets and evening problem-solving meetings.** Problem sets will be handed out every 2 weeks through the course website. Solutions will be posted on the internet several days later, so that you may have sufficient time to work on the problems. Four evening problem solving meetings will be held during the semester, date/time to be decided in class. Two of these meetings will serve as reviews prior to the midterm exams. There will also be a review before the final exam.

**Exams.** There will be two midterm exams and a final exam in CHEM 330. The midterms will be administered sometime in the first half of October and the first half of November. These exams will take place in the evening, on dates to be decided in class, by common accord and in such a manner as not to interfere with tests in other courses. The final exam will be held at a time/place established by the Registrar.

**Grading.** Your midterms and final exam scores will count for 25%, 25% and 50% of your overall CHEM 330 grade, respectively.