CHM 5400 Physical Organic Chemistry

Course description: This course will introduce and cover important concepts involved with the structure and behavior of organic compounds, as well as detailed examination of standard organic mechanisms.

Prerequisites: CHM 2840 (year-long organic sequence), CHM 3920 (quantum physical chemistry).

Course format/details:

Lecture time:2:00 – 2:50 pm MWFLecture place:Room 4125 PSBInstructor:Dr. Edward TreadwellInstructor's office:Room 4450 PSBPhone:581-6229email:emtreadwell@eiu.edu

Office hours: Mon. 12 noon – 1 pm, Thurs 10 – 11 am, Fri. 10 – 11 pm other hours by appointment gladly considered.

Textbooks: <u>Advanced Organic Chemistry, Part A</u>, 4th ed. by Carey & Sundberg <u>March's Advanced Organic Chemistry</u>, 6th ed., edited by Smith & March WebCT page: https://online.eiu.edu/webct/logon/1234808021

Grading Format:

Grades will derived from four sources, as shown below:

3 Exams	300
100 points each	
1 project	45
45 points	
Final Exam	120
150 points	

The three in class exams will be *tentatively* given on Feb. 11, Mar. 11, and Apr. 8, and will cover the material covered since the last exam.

The final exam is on <u>Thursday May 5, 2005</u> at <u>2:45 pm</u>, and will be cumulative.

Once the day of the exam is finalized, you should expect to take the exam on that day at the specified time. I will not be very receptive to providing alternate exam times unless there are EXTREMELY compelling reasons as described in the catalog. If you do you think you have a compelling reason, it is imperative that you discuss this with me a WEEK before the exam (at the latest) if you expect some accommodation. Requests made within a week of the exam will most likely be denied.

While you are free to work with others on the **<u>homework</u>** assignments, it is important that you hand in your own work – cases of plagiarism/direct copying will be referred to the Office of Judicial Affairs. Please note that on the take-home portion of **<u>exams</u>**, you must work independently!

Attendance:

Class attendance, including arriving to class on time, and your attention during class is expected. Missing more than five days of class will result in a failing grade.

Schedule of topics:

The topics covered will be followed in the general order shown below, though we may not spend an equal amount of time on each subject. The topics are organized according the presentation given in *Carey & Sundberg*'s book, and you should read the appropriate chapters thoroughly. The chapters in parantheses correspond to Carey & Sundberg's book; the chapters in italics below each topic are from March's book.

Unit I

Chemical Bonding and Structure (Ch. 1) *Ch. 1, Ch. 2 to pg 42* Conformational Analysis (Ch. 3) *Ch 4 pp. 167-191* Aromaticity (Ch. 9) *Ch. 2 pp 43-71*

Unit II

Studying Organic Mechanisms (Ch. 4) *Ch. 6, Ch. 9* Nucleophilic Substitution (Ch. 5) *Ch. 5 pp 218-227, Ch. 10 to pg 462* Addition and Elimination Reactions (Ch. 6) *Ch. 15 to pg 990, Ch. 17 to pg 1326*

Unit III

Carbanions / Reactions of Carbonyls (Ch. 7,8) *Ch. 5 pp 227-238, pg 327-332* Concerted Reactions (Ch. 11) *Ch. 15 pp 1062-1075* Photochemistry (Ch. 13) *Ch. 7*