CHEM 3053 Section 003  
Organic Chemistry I (Honors) Biological Emphasis  

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Web Site: http://learn.ou.edu/ under CHEM 3053 Sec 003  

Office Hours: Mondays 2:30pm-4:00pm in PHSC 308A  
Wednesdays 2:30pm-4:00pm in PHSC 308A  
(If you can’t make it during these hours, please make an appointment by e-mail)  

Lectures: Mondays: 1:30pm-2:20pm PHSC 228  
Wednesdays: 1:30pm-2:20pm PHSC 228  
Fridays: 1:30pm-2:20pm PHSC 228  

Action Center  
Meeting: Wednesdays 6:30pm-8:30pm Wagner Hall 135/140  

Assessment:  
| Quiz 1: Friday, Sept. 5. (In Class) | 5%  
| Quiz 2: Friday, Oct. 3. (In Class) | 5%  
| Quiz 3: Friday, Oct. 31. (In Class) | 5%  
| Quiz 4: Friday, Nov. 21. (In Class) | 5%  
| Mid Term 1: Friday Sept. 19. (In Class) | 10% - 15%  
| Mid Term 2: Friday Oct. 17. (In Class) | 10% - 15%  
| Mid Term 3: Friday Nov. 14. (In Class) | 10% - 15%  
| Final Exam: Wed Dec. 10. (8:00am-10:00am) | 35% - 50%  

Total: 100%  
Bonus: + 1%  

No make-up quizzes will be given. A grade of 0 will be assigned to missed quizzes without documentation of a reasonable excuse for the absence. Make-up midterms will be allowed only upon providing documentation of a reasonable excuse for the absence. If no documentation is provided, a grade of 0 will be assigned.  

Text:  

Molecular models are highly recommended. Darling Molecular Models are best. These are available at the bookstore.  

This syllabus is subject to change at any point throughout the semester. Reasonable notice will be given for any changes made.
Course Outline

Nomenclature: You are responsible for naming chains up to 12 carbons long for all classes of compound covered (alkanes, alkenes, alkynes, alcohols, thiols, halides, amines, aldehydes, ketones).

Part A: Structure
1) Organic Molecular structure
   a. “Organic” periodic table
   b. Electronegativity and periodic trends
   c. Covalent bonds
   d. Molecular Representations: Lewis Structures
   e. Molecular Orbital Theory
   f. Molecular Structure and Bulk Properties
   g. Molecular Representations: Line Structures
   h. Resonance

2) Alkanes
   a. Conformational Analysis-Acyclic Alkanes
   b. Conformational Analysis-Cyclic Alkanes
   c. Stereochemistry
   d. Fischer projections
   e. Resolution of enantiomers

Part B: Simple Reactivity
1) Displacement reactions
   a. Acid/base reactions
   b. Reaction co-ordinate diagrams
   c. S_N2 reactions
   d. S_N1 reactions

2) Elimination reactions
   a. E1 reactions
   b. E2 reactions

Part C: Functional groups and Reactivity
1) Additions to Alkenes
   a. Hydration reactions
   b. Halogenation reactions
   c. Radical reactions
   d. Halohydrin formation
   e. Dihydroxylation reactions
   f. Epoxide formation
   g. Epoxide opening
   h. Hydrogenation
   i. Cleavage reactions
   j. Synthesis and Retrosynthetic Analysis
2) Synthesis of Alcohols  
   a. Synthesis by reduction  
   b. Synthesis by Grignard reaction  

3) Ethers  
   a. Properties  
   b. Synthesis  
   c. Cleavage  

Additional Information  

Academic Misconduct: Information on the University of Oklahoma’s policies toward academic misconduct can be found at http://integrity.ou.edu/students_guide.html.  

Special Accommodations: Students requiring accommodations in this course are to be registered with the Disability Resource Center prior to receiving accommodations. Information for the Disability Resource Center can be found at: https://www.ou.edu/content/drc/home/students/accommodations.html.  

Behavior: Information on the University of Oklahoma’s policies toward student conduct can be found at http://judicial.ou.edu/.