

**ORGANIC CHEMISTRY (CHM 31)**  
**Spring 2016**

**Dr. Aaron M. Socha**  
**Associate Professor, Department of Chemistry**  
**Director, Center for Sustainable Energy (CSE)**  
**Bronx Community College-CUNY**

**Recitation:** Weds 6-6:50 pm  
Recitation Location: Snow Hall Conference Room

**Lecture:** Weds 7-9:30 pm  
Lecture Location: Snow Hall 2<sup>nd</sup> Floor

**Lab:** Mon 6-9:40pm  
Lab Location: Meister Hall Room 703

**Professor Socha's Contact Information:**

Office Location: Snow Hall Room 202  
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Office Hours: Monday and Tuesday 2-3 pm or by email appointment  
Assistant: Celia Bracy 718-933-1605, celia.bracy@bcc.cuny.edu

**Lab Instructor:** Mr. Andy Khoo (Khoo\_andy87@hotmail.com)

**Text:** *Organic Chemistry 8<sup>th</sup> Ed. John McMurray*

**Recommended Supplemental Materials:** Prentice Hall Molecular Modeling Kit for Organic Chemistry

<http://www.amazon.com/Prentice-Molecular-Model-Organic-Chemistry/dp/0205081363>

Four of these kits are available at CSE, you may use them in the CSE Library and Computer Lab ONLY. Please be respectful of other students, and keep the kits neatly organized in terms of atom and bond inventory.

**Course Website:** Contains all lecture notes, HW problems and Lab experiments:  
<http://www.csebcc.org/CHM31.html>

**CSE Library and Computer Lab:** You will find an extensive chemistry and science literature library and computers with *Chem Draw* on the second floor of Snow Hall. You are allowed to use this space during regular business hours (9am-5pm M-F).

### **Course Topics and Dates:**

February 3: Chapter 1: Organic Structure, Electronics and Bonding

February 10: Chapter 2: Polarity, Resonance, Organic Acid/Base Chemistry

February 17: Chapter 3 & 4: Organic functional groups, alkane and cycloalkane nomenclature and conformational analysis + **Quiz 1**

February 24: Chapter 5: Stereochemistry at Tetrahedral Centers

March 2: Chapter 6: Overview of organic reaction mechanisms/energetics + **Quiz 2**

March 9: Chapter 7: Alkenes: Structure and Reactivity

March 16: Chapter 8: Alkenes: Reactions and Synthesis + **Quiz 3**

*March 23: No Class*

March 30: Chapter 9: Alkynes Part 1

April 6: Chapter 10: Alkynes Part 2 + **Quiz 4**

April 13: Chapter 11: Organohalides

April 20: "Green Chemistry" Presentations

*April 22-30: Spring Recess*

May 4: Alkyl Halides: Nucleophilic Substitution and Eliminations

May 11: Retrosynthetic analysis + **Quiz 5**

May 18: Review for Final Exam

May 25: **Final Exam**

## Grading Policy:

### **Homework: 15%**

You will be expected to complete your homework by the beginning of each week's lecture. All homework solutions should be **handwritten** to familiarize you with the "visual language of organic chemistry". Weekly problem sets will be assigned in the last slide of the previous week's lecture notes. Participation during *Recitation* and *Lecture* by asking questions is expected if you are unclear with a problem or a concept. It is **very important** that you complete your homework to the best of your ability each week, as quiz and exam questions will be similar to homework problems. You will also be required to read each chapter before class as part of your homework. **Purchase a separate notebook for homework**, it will be collected at the beginning of each lecture and returned at the beginning of the next week's class.

### **Quizzes: 35%**

There will be a total of 5 quizzes given throughout the semester. Each quiz will consist of problems similar to those discussed in *Lecture*. Cheating on quizzes will not be tolerated and will result in failure. Quizzes do not typically have multiple-choice problems.

### **"Green Chemistry" Presentation (To replace 1 quiz grade)**

Select an organic molecule that has been traditionally been prepared from petrochemicals but is now being made using "green chemistry". This can include synthetic methods involving fermentation, environmentally benign reagents, less waste, fewer synthetic steps, readily abundant, renewable starting material etc. One example of a "green chemical" is adipic acid, which is used to make Nylon 6-6. You can discuss the applications of the chemical (1-2 slides), the process by which it is prepared (2-3 slides), the cost of production and the global market (1 slide). This is a 5 slide - *flash* - presentation that will last 5-10 minutes. Think of it as an "elevator pitch" with a molecular model.

### **Final Exam: 25%**

Due to the nature of the material, the final exam is cumulative and will focus on the second part of the semester's material. We will review for the final on the last week of class. Cheating on the exam will not be tolerated and will result in failure. The Exam consists of 35 multiple-choice problems.

### **Labwork: 25%**

Mr. Andy Khoo is your lab instructor and will provide a model lab to be used to format your reports. Mr. Khoo also grades all lab reports and provides a numerical grade for the lab section. This grade will be factored into your final grade.