

# Organic Chemistry II

## Instructor and Course Description

**Dr. Michael W. Justik**  
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**Office Hours:** T 9-12 AM

**Course Description:** CHEM 203—is the continuation of the introductory organic chemistry course CHEM 202. Covered material centers on the use of the previous material to study biomolecules and spectroscopy. The laboratory component introduces the student to the basic techniques used by organic chemists to prepare, purify and characterize compounds. This “brings to life” the reactions and synthetic problems illustrated in the first, descriptive part of the course.

*And every hour of everyday I'm  
learning more*

*The more I learn, the less I know  
about before*

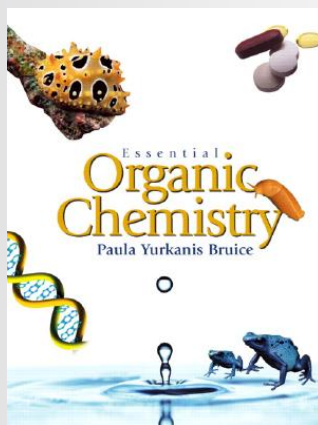
*The less I know, the more I want  
to look around*

*Digging deep for clues on higher  
ground...*

*“Higher Ground” by UB40*

## Text and Course Materials

**Text:** *Essential Organic Chemistry*, Paula Bruice, 1<sup>st</sup> Ed.



**Recommended Materials:** The solutions manual is strongly recommended.

For the laboratory you will need a composition notebook and a set of laboratory goggles with side safety shields.

**Course Website:** Available on the CHEM 202/203 page of the instructors website:

<http://chemistry.bd.psu.edu/justik/CHEM202.html>

All problem sets and study guides will be posted here, as well as answer keys for the exams.

## Grading and Course Policies

**Grading:** The Behrend grading scale will be used. If the class average falls below a C+ mark, an adjustment may be made. A 95-100; A- 90-94; B+ 87-89; B 83-86; B- 80-82; C+ 70-80; C 60-70; D 50-59; F Below 50.

This course is 2 credits of lecture component and 1 credit of lab component.

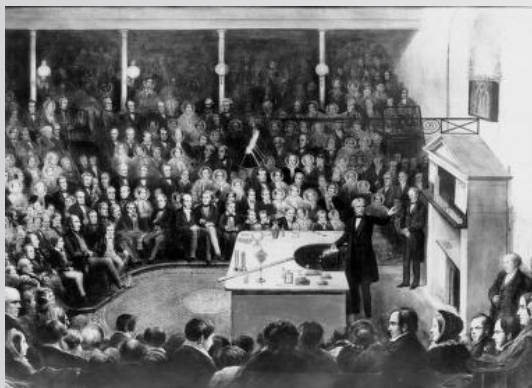
Lecture	
<b>Mini-Exams</b> (3 x 75 pts)	<b>= 225 pts</b>
<b>Problem Sets</b> (2 x 25 pts)	<b>= 50 pts</b>
<b>Spectroscopy Puzzle</b>	<b>= 50 pts</b>
	<b>325 pts</b>
Laboratory	
<b>Experiments—Reports and Notebook</b> (7 x 25 pts)	<b>175 pts</b>
<b>Total</b>	<b>= 500 pts</b>

### Academic Integrity Policy:

Penn State and your professor put a very high value on academic integrity, and violations are not tolerated.

More information on academic integrity can be found at:

<http://www.pserie.psu.edu/faculty/academics/integrity.htm>



**Chapter 16:** Carbohydrates

**Chapter 20:** Lipids

**Mini-Exam 1—TBA**

**Chapter 17:** Amino Acids

**Chapter 21:** Nucleosides, Nucleotides and Nucleid Acids

**Mini-Exam 2—TBA**

**Chapter 18:** Enzymes, Coenzymes and Vitamins

**Chapter 19:** Metabolism

**Mini Exam 3—TBA**

**Chapter 15:** Determining the Structure of Organic Compounds

**Spectroscopy Problem Set 1**

**Spectroscopy Problem Set 2**

**Spectroscopy Puzzle**

Experiment	
August 28 <sup>th</sup>	Check-In
September 4 <sup>th</sup>	Experiment 1—Recrystallization
September 11 <sup>th</sup>	Experiment 2— Monosaccharides
September 18 <sup>th</sup>	Experiment 2—Continued
September 25 <sup>th</sup>	Experiment 3—Trimyristin
October 2 <sup>nd</sup>	Experiment 4—Amino Acids
October 9 <sup>th</sup>	Experiment 5—Enzymatic Reduction
October 16 <sup>th</sup>	Experiment 5—Continued
October 23 <sup>rd</sup>	Experiment 6—Carboxylic Acids
October 30 <sup>th</sup>	Experiment 6—Continued
November 6 <sup>th</sup>	Experiment 7—Unknown ID
November 13 <sup>th</sup>	Experiment 7—Unknown ID
November 20 <sup>th</sup>	Check-Out

### Course Guidelines

Study Guides will be posted one week before each mini exam. These will overview the material as well as help you organize your studying.

A study workshop will be given by your professor to review the material for each exam, the scheduling will be up to you but the preceding Friday afternoons and Saturday mornings are the most possible times

It is assumed that you read each chapter before we cover the material and perform the minimum problem sets immediately thereafter.

### Tips for Success

Organic chemistry is perceived as one of the most difficult courses taken during an undergraduate degree program, but there are ways to increase your performance and maybe even enjoyment of the course:

- Organic chemistry is more a foreign language than anything else. It must be practiced every day—writing, reviewing and working problems!
- Do not miss any material or “relax” your study habits—this is a sixteen week marathon and every effort is required!
- Study groups are helpful and encouraged—cram sessions are typically not helpful and discouraged!
- After each lecture—rewrite your notes. You will be surprised how well this simple tool works, at least to make sure your notes are legible and organized should you decide to cram!
- Do not attempt to memorize everything—this is a course of concepts and applications! Most wrong answers on exams are convoluted concepts that were memorized
- Students often complain they study and study and never assimilate the material—remember, if you study the **same way** each time, you will get the same result for better or worse!
- Increasing the amount you study may have no effect if your study habits are poor

**See Dr. Justik if you have any problems—that is why he is here !**