

CHE 2060: Principles of Organic Chemistry

Spring 2020

Lecture: MWF @ 1 pm in RSH109; lab: M 2-5 in MOR123

Moodle links to my course web site: richmond-hall.weebly.com/che-2060.html

This course is designed to introduce students to the study of organic chemistry and serves as a comprehensive introduction to the subject. Material includes a general overview of the basic organic compounds, from alkanes to heterocyclic compounds, their bonding, structures and reactions these compounds commonly undergo. Important areas of organic chemistry will be included.

4 Credits: 3 hours of lecture, 3 hours of lab

Required text:

Organic Chemistry with a Biological Emphasis (2016) Soderberg

[https://chem.libretexts.org/Textbook_Maps/Organic_Chemistry/Book%3A_Organic_Chemistry_with_a_Biological_Emphasis_\(Soderberg\)](https://chem.libretexts.org/Textbook_Maps/Organic_Chemistry/Book%3A_Organic_Chemistry_with_a_Biological_Emphasis_(Soderberg))

Molymod modeling kit (find it via Google, Indigo or Amazon)

Suggested supplementary online texts:

Virtual Textbook of Organic Chemistry (1999) William Reusch

An interactive textbook covering the usual topics treated in a college sophomore-level course. Links are offered to advanced discussions of selected topics.

<http://www.cem.msu.edu/~reusch/VirtTxtJml/intro1.htm>

Virtual Textbook of OChem, another version of Reusch's on-line text

http://chemwiki.ucdavis.edu/Organic_Chemistry/Virtual_Textbook_of_OChem

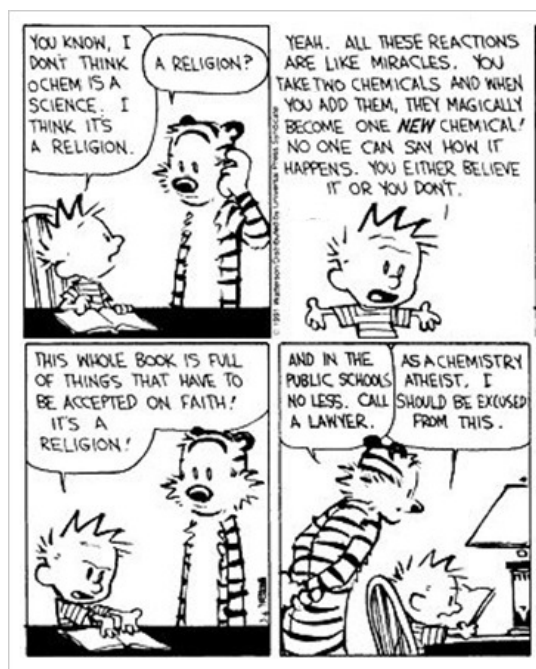
Also available in Hartness Library:

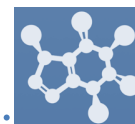
Organic Chemistry, a Short Course (2003) 11/e,
Hart, Craine and Hart, Houghton Mifflin
ISBN: 0-618-2153-0

Organic Chemistry as a Second Language:
Translating the Basic Concepts (2004) 2/e,
Klein, Wiley
ISBN: 0-471-27235-3

Pushing Electrons: a Guide for Students of
Organic Chemistry (1998) 3/e Weeks and
Thompson
ISBN: 0-03-020693-6

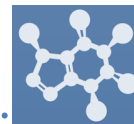
The Organic Chemistry of Biochemical
Pathways (2005) McMurry & Begley,
Roberts & Co.
ISBN: 0-9747077-1-6





Wk	Day	Topic	Soderberg chapter
1		Introduction to organic structures & bonding, I <i>Line-bond drawing WS</i> <i>Adsorption chromatography lab</i>	1
2		Introduction to organic structures & bonding, II <i>Naming alkanes, cycloalkanes, alkenes and alkynes WS</i> <i>VSEPR worksheet and modeling WS</i> <i>Recrystallization of acetanilide lab</i>	2
3		Introduction to organic structures & bonding, II (cont'd) <i>Understanding and applying resonance WS</i> <i>Simple distillation of alcohol lab</i> **Review & Exam 1**	2
4		Conformation and stereochemistry <i>Modeling and cycloalkane conformation lab w/ WS</i> <i>Conformation and modeling WS</i>	3
5		Conformation and stereochemistry (cont'd) <i>Stereoisomer modeling WS</i> <i>Demonstration of oxidation of luminol</i>	3
6		Overview of organic reactivity <i>Understanding electrophiles and nucleophiles WS</i> **Review & Exam 2**	6
7		Overview of organic reactivity (cont'd) <i>Microscale extraction of caffeine from tea lab</i>	6
8		Acid-base reactions <i>Acid-base equilibrium WS</i> <i>Extraction to separate an organic mixture lab</i>	7
9		Acid-base reactions (cont'd) <i>Aspirin lab I</i>	7
10		Nucleophilic substitution reactions <i>Aspirin lab II</i> **Review & Exam 3**	8
11		Nucleophilic substitution reactions (cont'd) <i>Aspirin III</i>	8
12		Nucleophilic carbonyl addition reactions <i>Biodiesel lab: titration and transesterification</i>	10
13		Nucleophilic acyl substitution reactions <i>Biodiesel lab: partition and washing</i>	11
14		Electrophilic reactions **Review & Exam 4**	14
15		Cumulative final exam	

[NOTE: The instructor reserves the right to change the syllabus and lab exercises at any time.]



Grading policy:

Exams = 10% each (or total 40%)

Cumulative Final Exam = 10%*

Quizzes = 15%

Homework = 15%

Lab Reports or Exercises = 20%

Due dates and grading notes:

- **No late work will be accepted.**
 - Homework assigned is due at the next class meeting (2 days or weekend).
 - Lab reports are due at our next lab meeting (1 week later) and are accepted only 2 days after this due date; grades drop by 3.3 points per day for each of those two late days.
- Quizzes: the lowest quiz grade of the semester will be dropped only if it is not a zero. Make up quizzes are not offered.
- Make up exams will be provided if you have a valid reason and if you contact me before the exam or immediately after the exam.
- *Hourly exam grades will be replaced with grades for the corresponding section of the **cumulative final exam**, if the latter grade is higher. However, zeros will not be replaced!

Grading scale:	A+	97 – 100	C+	77 – 80
	A	94 – 96	C	74 - 76
	A-	91 – 93	C-	71 - 73
	B+	87 – 90	D+	67 - 70
	B	84 – 86	D	64 - 66
	B-	81 – 83	D-	61 – 63
			F	0 - 60

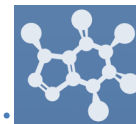
Attendance:

On-time attendance is expected. I report excessive absences through the college's academic alert system and as part of academic warnings. Students missing class are responsible for material covered and any information provided (get handouts from a classmate or the course website). Unexcused absences will not be allowed to make up missed exams or quizzes and will receive a failing grade. **If you will be or were absent on the day of an exam, you must contact me in writing and request a make-up exam**). Only excused absences will be allowed the opportunity for a make-up exam.

Communication:

My official course-related communication will be via your official college email address. You are responsible for regularly reviewing email as important course information may be delivered this way. If you use your own e-mail system, arrange to have your college email forwarded.

See IT or <http://support.vtc.edu> for assistance.



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Cell phones:

Cell phone use is strongly discouraged. I reserve the right to ask chronic users to surrender their phones during class. Cell phones will be collected during exams so be sure to bring a calculator.

Focus on learning:

During class, recitation and lab sessions our focus must be learning. Please respect this focus. If I find that your behavior is preventing others from focusing on learning, I may ask you to leave. Please let me know if there is anything I can do to help you focus and succeed in the course.

Academic integrity:

Students are expected to practice academic honesty, understand and abide by Vermont Technical College's Policy on Cheating and Plagiarism (T107). I expect students to prepare and submit their own work for all assignments, including lab reports. You are welcome to work in groups or with tutors, but all work you submit must be demonstrably your own. If there is any question regarding the appropriateness of collaborating on homework or projects, check with me before the assignment is due.

<https://www.vtc.edu/my-vermont-tech/my-vtc-home/policies-procedures>

If you need help with this course:

Students having problems with course material should feel free to talk with the instructor. In addition, if anything regarding the classroom environment interferes with a student's learning experience, it should be brought to the attention of the instructor. Students experiencing any special difficulties should take advantage of recitation hours and my office hours, and should feel free to schedule extra hours with me or with tutors available at the Center for Academic Success.

<https://www.vtc.edu/my-vermont-tech/my-vtc-home/center-academic-success>

Disabilities and accommodations:

Anyone who feels they may be eligible for an accommodation based on the impact of a disability should contact me to arrange an appointment to discuss the course format and the sort of supports that may be needed. I rely on the Learning Specialist's office for assistance in verifying the need for accommodations and developing accommodation strategies. If you have not contacted the Learning Specialist, I encourage you to do so. Robin Goodall is available in the Center for Academic Success (Conant 224), ext. 7-1278, or by email at rgoodall@vtc.edu.

<https://www.vtc.edu/my-vermont-tech/my-vtc-home/center-academic-success>