

Chemistry 2304
Organic Chemistry II for the Life Sciences

M/W/F 1:25 – 2:15 PM

MCB 3-120

Spring Semester, 2016

Instructor: Professor William Pomerantz, 312 Smith, wcp@umn.edu

MPACT Leader: Dr. Laura Hawk, lmhawk@umn.edu

Prof. Pomerantz' Office Hours: 2:30-3:30 PM, Mon, 2:30-4:00 PM Wed and by appointment. Review sessions (5 pm) will be scheduled before each exam and may also be added at additional times during the semester

Course Website: Our Moodle Site (2.8) CHEM 2304 ORGANIC CHEMISTRY II FOR THE LIFE SCIENCES SPRING 2016 is up and will be updated throughout the semester. You can navigate to the site from <http://www.onestop.umn.edu/>

Tutor Hours: Organic tutor hours will be held in Smith 124 throughout the semester beginning January 25th according to the schedule posted on the door and my website. It is important to me that your time is well spent in this room. Please inform me or the Head Organic TA (Sarah Wegwerth, wegw0013@umn.edu) if tutors are not present at their scheduled time, helpful, or leave for extended periods of time. A reminder that the purpose of a tutor is to help you learn, not simply give you answers to questions or problems. The tutors are instructed, in fact, to ask YOU questions that will help you understand what concept you are missing that is preventing you from solving a particular problem. Self-discovery will enhance the depth and retention of your knowledge.

ChemFoundations Program: Another optional study group program is ChemFoundations. This program involves the volunteer efforts of advanced undergraduate/graduate students (the ChemFoundations Leader) who enjoy teaching and helping students to succeed in organic chemistry. Each ChemFoundations leader will meet at a designated time and place once a week with students to work problems and review difficult concepts. It is designed to be a one-hour to one and a half hour active-learning session; not a lecture, office hour, or private tutoring session. So please attend only if you are willing to participate and engage in group learning. You are free to "try-out" the different leaders and select one or more that best fits your learning style. Session information will be given the first week of classes and the Organic Chemfoundations program will start January 25th. For questions or problems, please contact Jake Brutman (brutm003@umn.edu) or Professor Jane Wissinger (jwiss@umn.edu).

Course Materials: Required: J.G. Smith, 4th ed. McGraw Hill, modeling kit, and student study guide/solutions manuals. A copy is on reserve in Walter Library. Additional readings regarding biological topics may be assigned throughout the semester.

Class Coverage The objective of this course is to provide you with a working framework of organic chemistry based on structure, reactivity, and relationships when appropriate to biology. The class covers the second half of Smith, Chapters 16-29. Learning objectives for the course include 1) Mastery of new organic reactions. 2) Application of principles of structure, electronic states, and

reactivity to rationalize reaction outcomes, and 3) Correct use of arrow pushing formalisms for reaction mechanisms. Refer to the attached course plan as several sections may be skipped.

Grading

Quizzes	10%
Assignments	5%
In-Class Exams(3):	60%
Final Exam:	25%

Grading Scale: As a guide, historically the grades for this course across a range of instructors have resulted in typical ranges of **A:** 100-80%, **B** 79-65%, **C** 64-50%, **D** 49-45% and **F 44-0%** The grade borders (+/-) will be determined at the end of the course. This is a percentage in the class and not total points. As the course will be based on a curve, the grade borders may change by a few percent. For students taking the course S/N, a C- is the minimum requirement for an S.

Quizzes. There will be regular short 10 minute quizzes every other week during the semester (see syllabus). Quizzes will be administered at the beginning of class and at least one problem will be taken directly from the “suggested problems” on the syllabus. The lowest score will be dropped. Take home problems may also be assigned in place of a quiz.

Assignments. **At least five** of the suggested problems on the syllabus must be turned in at the beginning of class every other Friday. For full credit, problems must at least be attempted.

Exams: Three 45 minute exams will be given throughout the semester in molecular cell biology building, MCB 3-120 during the normal class times (MWF, 1:25 to 2:15). See “Important dates” below for exam times. **Accommodations:** I would like you all to have equal opportunities for success, if you need special accommodations for an exam please consult with student services so that we can find the best solution possible.
<https://diversity.umn.edu/disability/accommodationsandservices>

Final Exam: The final will be comprehensive and take place on Wed May 11th, 8-10 am. If there is a university approved scheduling conflict, notify me as soon as possible so that we can make arrangements.

Policy on Missed Exams and Quizzes for Legitimate Absences: Before discussing this issue with me, please review the Administrative Policy for Legitimate Absences: <http://policy.umn.edu/Policies/Education/Education/MAKEUPWORK.html> and see if your absence qualifies as legitimate, as defined by the University. When discussing the matter with me, ready to provide information and contacts related to the absence. All examinations will be included in a student’s final grade determination. In general, no make-up exams will be given. A student can be excused from a midterm for a documented emergency or serious illness, or a University-related activity (again, see the URL). Contact me as soon as possible when a missed exam is applicable. In the event of an unforeseen emergencies (e.g., illness, urgent family matter), you must notify me before the exam for a change to the grading scheme (see below). No early

finals will be given. If you miss an exam and have not notified me in advance, you will receive a zero for that exam. There are no make-up quizzes.

Policy on Incomplete Grades: An "I" will be received in the course only when a prior agreement has been made with the instructor and paperwork filed. "I" grades will be considered if the final can not be taken and progress until that point is deemed satisfactory. The "I" can be made up by taking a regularly scheduled 2304 or 2302 final during the following semester. If the final or additional necessary work is not taken and/or deemed satisfactory, an "F" or an N grade will be assigned

Regrading: Regrading requests may be turned in up to 3 weeks following the posting of the exam key, or until the day before the next exam. Do not write on your exam. Attach a form stating the reason for the regrade. In addition to the noted section, the exam will be regarded in its entirety.

Problems! Your textbook contains many problems to work through, and I have also recommend selected problems for each chapter. These will not be graded but are highly recommended to do for developing proficiency and may used on the quizzes. Please see section on Assignments

Contact Information: You must use your University of Minnesota x-500 email account so that I can send you information and updates regarding this course. I will keep CHEM 2304 in the subject line. *Please use the same heading so that I can readily attend to your email.* I will do my best to respond within 24 h.

Scholastic Dishonesty: Academic misconduct is not tolerated and may result in either a failed assignment or failure from the course. According to University policy scholastic misconduct is broadly defined as "any act that violates the right of another student in academic work or that involves misrepresentation of your own work. Scholastic dishonesty includes, (but is not necessarily limited to): cheating on assignments or examinations; plagiarizing, which means misrepresenting as your own work any part of work done by another; submitting the same paper, or substantially similar papers, to meet the requirements of more than one course without the approval and consent of all instructors concerned; depriving another student of necessary course materials; or interfering with another student's work."

My Expectations for students in my class

- 1) Coming to class prepared
- 2) Taking notes and actively participating
- 3) Staying current with reading and assigned problems.
- 4) Working problems to solidify material
- 5) Seeking help when a concept is not clear.

Success in Organic Chemistry II 2304

Coming to class and reading the textbook is not sufficient (but highly advised!) to be successful in organic chemistry. This is a problem-based course, and mastery of course material only comes through applying knowledge by constant practice and working through problems. Participate in class, actively test your knowledge by answering questions or vocalizing a question to enhance the learning process. Success does not = memorization, although general principles will have to be remembered these are *not trivial facts*. Many of the principles that you master can be broadly

applied for rationalizing new reactions that you are unfamiliar with. Use your resources wisely to clear-up any misconceptions. Everyone has a different learning style, but a similarity between many is repetition and constantly testing your knowledge. Notecards, problem sets, study groups, online resources, tutor rooms, my office hours, are but a few resources to help. Please **be selfish with your education** and get the most out of the course. My office is open to you to help you learn this exciting material. Good Luck!

***New-ChimeIn:** This semester I will be implementing ChimeIn questions which will use the website: <https://chimein.cla.umn.edu/>. This program is analogous to clickers to help with the learning experience, but is compatible with your computer, Ipad, smartphone, or regular cell phone (via text messaging). A short video on how to interface with the program is here. <http://mediamill.cla.umn.edu/mediamill2/html5/78553>. Your feedback on this application is appreciated.

Important Dates

Exam 1	Monday, Feb. 22nd (in class)
Exam 2	Wednesday, March 30 th (in class)
Exam 3	Wed, April 20th (in class)
Final Exam	Wednesday, May 11th

Course Outline and Recommended Problems

Week	Readings in Smith	Notes/Problems (P)
1. Jan. 20, 22	Chap. 16 Sec. 1-8	<i>Bradner Video</i> , Dr. Hawk on the 22nd
2. Jan. 26-29	Chap. 16 Sec. 9-15	P: 16.31,33, 34,36,42,45,47 48,50,51, 58, 60, 68 ASSIGN 1 (Chapt 16)
3. Feb. 1-5	Chap 17 Sec. 1-10	<i>Thyroxine synthesis</i> , P: 17.32,33,34,37,39,41,45, 46, 47,50,51,52,56,61,62 QUIZ 1 (Friday)
4. Feb. 8-12	Chap 18. Sec. 1-9	P:18.36,38,39,41,45,,48,47,51,54,59,65,69,63, 69 ASSIGN 2 (Chap 17, 18)
5. Feb. 15-19	Chap. 18 Sec. 10-14	QUIZ 2 (Friday)
6. Feb. 22-26	Chap. 19 Sec. 1-11, 14	<i>Amino Acid pKa</i> P: 19.34,37, 38,41,43, 48,63,66,67, 72 ASSIGN 3 (Chap 19) Exam 1 Mon. Feb. 22nd ,
7. Feb 29-Mar 5	Chap. 20 Sec. 1-16	<i>Biological Redox</i> : P: 20.40,41,43,45,47,51,55B,56,61,66,79,80 QUIZ 3 (Friday)
8. Mar. 7-11	Chap. 21. 1-12	P: 21. 45,48,50,56,64,68,73, 74 ASSIGN 4 (Chap 20, 21)
9. Mar. 14-18	SPRING BREAK	SPRING BREAK
10. Mar. 21-25	Chap. 21 14-17	QUIZ 4 (Friday)
11. Mar. 28-Apr. 1	Chap. 22 Sec. 1-14	P: 22. 51, 52,54,56,57,60,64,68, 73,74 ASSIGN 5 (Chap 22) Exam 2 Wed Mar. 30th
12. Apr. 4-8	Chap. 22 Sec. 15, 17, 18, Chap. 23 Sec. 1-7	P: 23.33,35,42,44,46,51,52,58,62,67, 72 QUIZ 5 (Friday)
13. Apr. 11-15	Chap. 23 Sec. 8-10 Chap. 24 Sec. 1-7	P: 24. 28,30,35,39,41,44,47,49, 54,66 ASSIGN 6 (Chap 23, 24)
14. Apr. 18-22	Chap. 24 Sec. 8-9 Chap. 25 Sec. 1-10	P: 25.46, 49, 57,59,64,65,70,71 QUIZ 6 (Friday)
15. Apr. 25-29	Chap. 28 Sec. 1,2 ,7-10	P: 29.29,33,35,37,38,40,52,53, 60, 64,66,68 Exam 3 Wed April 20th
16. May 2-6	TBD	ASSIGN 7 Chap 25, 28