UMBC

Department of Chemistry and Biochemistry
Chem 351, Organic Chemistry I
Summer 2013

Instructor	Dr. Mark Perks Meyerhoff 549C x52789 perks@umbc.edu Office Hours – Tues, Fri 1-3pm in lab or office; Thurs 11:30am-12:30pm; or by appointment
Text	Klein, David *Organic Chemistry*; John Wiley and Sons, 2012
Required	TurningPoint Technologies clicker device required for class participation Molecular Model Set
Prerequisite	CHEM101 and CHEM102 with a grade of C or better
Corequisite	CHEM351 is a corequisite for the lab course CHEM351L. **If you drop CHEM351 you must also drop CHEM351L**
Repeating	CHEM351 can not be repeated if CHEM352 has been taken for a grade. As a prerequisite for CHEM351 CHEM102 can not be repeated if CHEM351 has been taken for a grade.

Course Material

Chapters 1 through 13 of the text will be covered in sequence. Overarching objectives are 1) acquiring concepts of structure, bonding, thermodynamics, kinetics, acid-base chemistry and stereochemistry; 2) mastery of the functional group reactions of each chapter; 3) understanding of the mechanisms of the reactions; 4) and creative use of the reactions in organic synthesis. By the end of this course, students will be able to predict and explain the steric, electronic, and mechanistic factors underlying the physical and chemical behavior of organic compound classes covered. Detailed lists of specific skills that should be mastered in order to succeed in this course are available on the course blackboard site. Students will gain a strong foundation for further studies in chemistry and biochemistry. We will emphasize the development of critical thinking skills that are important beyond the field of chemistry. Detailed learning objectives are posted on Blackboard.

A tentative schedule of sections follows. Please note that the instructor reserves the right to omit or add to this at any time.

Tues 5/28	intro 1.1-1.13,2.1-2.6	Tues 6/18	7.8-7.9 8.1-8.5
Wed 5/29	2.7-2.12,3.1-3.4	Wed 6/19	8.6-8.14
Fri 5/31	3.5-3.9 4.1-4.7	Fri 6/21	**Exam 2, Chaps. 5-7**
Tues 6/4	4.8-4.15,6.1-6.6, 11.1-11.4		9.1-9.4, 11.10
Wed 6/5	11.5-11.6 11.7, 6.7-6.10	Tues 6/25	9.5-9.6, 9.8 9.7, 9.9-9.11
Fri 6/7	**Exam 1, Chaps. 1-4**	Wed 6/26	9.12-9.13 10.1-10.4, 10.10
	5.1-5.5	Fri 6/28	10.5-10.9, 10.11 12.1-12.6
Tues 6/11	5.6-5.9	Tues 7/2	13.1-13.3, 13.5 13.4, 13.6-13.7
Wed 6/12	7.1-7.3 7.4	Wed 7/3	**Exam 3, Chaps. 8-11 & Final Exam**
Fri 6/14	7.5, 7.6, 6.11		

Lectures will review and supplement text material and emphasize important concepts; offer additional examples; and provide the opportunity for interactive collaborative learning of the course content. You must come prepared for class having read the sections in the text to be covered and be ready to take a short pre-class quiz that will be similar to the questions at the end of each section.

Academic Integrity

By enrolling in this course, each student assumes the responsibilities of an active participant in UMBC's scholarly community in which everyone's academic work and behavior are held to the highest standards of honesty. Rigorous standards allow UMBC students, faculty, and administrators, as well as scholars and employers in the larger community, to trust that the work that students submit is the fruit of their own learning and academic effort. It is essential that all members of the UMBC community uphold a standard that places the integrity of each student's honestly earned achievements above higher grades or easier work dishonestly sought. All members of the UMBC community are expected to make a commitment to academic honesty in their own actions and with others. Academic misconduct could result in disciplinary action that may include, but is not limited to, suspension or dismissal. This instructor holds a profound repugnance for dishonesty and will pursue the severest punishment allowed under prevailing policies.

Following are examples of academic misconduct that are not tolerated at UMBC in any academic exercise.

1. Cheating on an exam by bringing a crib sheet, by accepting information from another student, or providing another student with information. 2. Using another student's clicker to register a response for them or allowing another student to register a clicker response for you.

To read the full Student Academic Conduct Policy, consult the UMBC Student Handbook, the Faculty Handbook or the UMBC Policies section of the UMBC Directory.

Exams/Grading

Classwork	15%	Classwork comprises individual clicker responses. In-class work cannot be made up. You must provide documentation to the instructor for any valid excuse to be absent in which case the in-class work will not be figured into your grade.
Exams	20% each	Three one-hour mid-term exams will be given. Exams begin at 8:30am on June 7, June 21, and July 3. All exams are scheduled on Fridays so you can take advantage of tutoring in the Tutorial Center on Wednesday afternoons. Sign-ups begin immediately after class on Wed, 5/29 in MEYR 145. Exams are roughly half multiple choice and half short answer. Past exams are posted on Blackboard. No exams are dropped. Exams missed due to a valid university excuse are made up as a comprehensive exam ("another final") at the end of the semester.
Final	25%	July 2, 10am-noon
Grading		Letter grades are assigned to total scores calculated from the above approximately as follows: A — 85–100; B — 75–84; C — 60–74; D — 50–59.

Classwork

Just as the exams emphasize problem solving, time in class class emphasizes problem-solving. When faculty incorporate active-learning techniques into their classes that challenge students to reflect, think critically, collaborate, and problem solve, students gain a better understanding of science as real connected concepts rather than as rules and descriptive content to be memorized.

At the beginning of class there will be short quiz of five or six questions on the reading assignment for the day. The questions will be similar to those in the "Conceptual Checkpoint" "Practice the Skil" and "Apply the skill" sections of the text. These questions must be answered correctly for credit. Additionally another ten to fifteen questions will be asked during each lecture and any response will earn credit. Responses are submitted by TurningPoint remote clickers. You

must have a TurningPoint remote to participate in these activities and you must register your TurningPoint remote on Blackboard. You can track your point total for each class on Blackboard.

Scores will be normalized to the maximum number of points recorded by any student and a 90 or above is taken as 100. Other than this curve there will be no allowance or score adjustments made if your clicker is not working or you forget to bring it. After a two-day ungraded trial period you will be solely responsible for correct operation of your remote. Be sure to bring extra batteries and turn off your clicker between classes. If you encounter difficulties with your clicker contact the company directly immediately. Start by visiting the following site:
http://www.turningtechnologies.com/studentresponsesystems/studentresources/studentlounge/responsecardrf/

If you miss class because of a documented university-recognized excuse, your clicker grade will be renormalized to correct for the absence. You must provide documentation within one week of the absence for it to be excused.

In-class questions are designed for student attention and engagement not as strict assessment. Most of the questions follow-up directly the discussion in class. Average scores for the clicker portion of all students' grades are above 80% and for students who come to class regularly and come prepared the in-class grade can almost be considered extra credit.

Register your clicker on Blackboard where you will see a registration tab on the home page. The serial number is the 6 digit alpha-numeric code below the bar code. The code may only include 0-9 and A - F (it will not include the letter "O" or the letter "I"). Students only need to register their clicker in Blackboard once no matter how many courses they are using it in. Make sure you clicker is set to the default channel of 41. To set the channel on your clicker: Press "Ch", then the channel number "41," and then "Ch" again. The channel has now been set to 41.

Working Problems and Other Advice

In some ways learning organic chemistry is like learning a new language. There is much to memorize but there is grammar and organization and general principles, too. You can't memorize a specific phrase for everything you might want to say in a foreign language and you can't memorize everything in organic chemistry. Look for the patterns and strive to recognize the underlying principles.

The most important part of the course is the problems. Organic chemistry can only be learned by doing it not by listening to someone lecture and not by high-lighting a textbook. **Do not look at the answer in the study guide until you've wrestled with the problem for 10 minutes.** You're training your mind to think using organic chemistry principles and you can't do that by just looking at the answer. Thinking the problem through and proposing an incorrect answer is actually a characteristic of effective learning.

Do not fall behind in your studying. New material in organic chemistry builds on the material preceding it. Allow yourself **at least** 15 hours per week to prepare for class, review and do problems. Organic chemistry is exceedingly difficult. The material can not be crammed.

Study in groups. Research has shown that students learn more effectively in collaboration. This is the reason for the in-class group work you will be doing. Studying in groups outside of class or with your tutorial group is also beneficial. These group sessions will be most productive, of course, if they are more scholarly than social.

Chem Tutorial Center, MEYR 145

While I am available to help you during office hours, I do also expect that you will seek the help of the tutorial center under the direction of Dr. Tiffany Gierasch. Use the tutorial center to get help with homework problems from the text and get "one-on-one" assistance. The tutorial center will open Wednesday, May 29, and subsequent Wednesday weekly spaces can be reserved. Walk-in tutoring is available also on Thurdays from 1-5pm. In addition to tutoring there are textbooks, solutions manuals and ACS study guides.