ORGANIC CHEMISTRY I - CHEM 2411
Fall 2018; TR 9:30-10:45; TLC 1203

Instructor: Dr. Vickie Geisler
Email: vgeisler@westga.edu
Office: TLC 2120
Supplemental Instructor: Kimberly Marroquin
Email: kmarroq1@my.westga.edu
Office hour: M 9-10 UCC CAS

Office Hours: T, R 11-12, M, W 1-5, R 2-5; other times by appointment
Problem-Solving Sessions: M 5-6 in TLC 2105, T, W 5-6 in TLC 1200
Textbook: *Organic Chemistry*, John McMurry, 9th Ed.
Suggested Material: "Preparing for your ACS Exam in Organic Chemistry: The Official Guide"
Required Equipment: I>clicker (1 or 2); this is the UWG sanctioned clicker that is used in Biology and other UWG courses. **Bring your clicker to class every day!!** You are responsible for keeping your clicker working. I will drop the two lowest clicker quizzes and the two lowest participation grades so you will not be penalized if you forget your clicker, miss class, or your clicker does not work.

Online resources:
Videos - www.khanacademy.org/science/organic-chemistry

Sapling Learning: Extra-credit on-line homework

1. In CourseDen select the Sapling Learning link found in the Introductory Material (in content). For initial registration, your Sapling Learning homework *must* be accessed through this link. After logging in once using this link, you can log in to subsequent sessions from our course page or from the Sapling home page.
2. If you already have a Sapling account, enter your username and password in the login box. If the login box is disabled, scroll down to the Create an Account portion of the page, fill in the missing info and click Create My Account.
3. Sapling Learning offers a grace period on payment (14 days from the first day of the term). If it is past the grace period, you will be required to pay ($42) before you can access the assignments.
4. During sign up or throughout the term, if you have any technical problems, **o**ur technical support team can be reached by phone, chat, or by email via the Student Support Community. To contact support please open a service request by filling out the webform: https://macmillan.force.com/macmillanlearning/s/contactsupport.

Course Den: Enrolled students will have access to CourseDen where I will post grades, and PowerPoint presentations.

Course Description: The first course of a two semester sequence which provides a broad introduction to the basic principles, theories and applications of the chemistry of carbon compounds. This course will emphasize the relationship between structure and reactivity. Topics will include modern structural theory, organic nomenclature, stereochemistry, reaction mechanisms and kinetics, and an introduction to functional group chemistry.

Learning Objectives: To learn the language of organic chemistry; to educate students to think independently about organic chemistry; to reason and think analytically in solving problems and making decisions in matters involving organic chemistry. To look for patterns and recognize qualitative similarities between seemingly unrelated facts. To develop a practical understanding for the causes of chemical change; to predict reactivity from structure; and to learn to predict the outcome of a reaction never seen before and to communicate organic chemistry with clarity.

Grading:	Clicker Quizzes (one at start of each lecture)	6.5%
	Clicker Participation (CP) during each lecture	3%
	Problem Sets	7.16%
	Exams: 9/6, 9/27, 10/25, 11/13	66.67%
	Final Exam – Thursday, December 13, 8-10 am	16.67%
		100 %

Note on Quizzes and Exams: <u>All clicker quizzes and exams will be taken individually</u>.

- Successful students report spending at least 12 hours each week. This entails:
  - Completing the ChemActivities (including exercises),
  - Reading and doing the assigned problems in McMurry or Sapling and
  - Completing problem sets.

- **Clicker Quizzes (CQ):** At the start of each lecture there will be a 5 point CQ (clicker quiz) over the material covered in the previous class period and assigned reading. Clicker quizzes will be taken individually. Please remain quiet until time is called. **The two lowest quiz scores will be dropped**. You are expected to attend every lecture. There will not be opportunities to *makeup* i>clicker points that are lost due to absences.

- **Clicker Participation (CP):** After the clicker quiz and during each lecture there will be several clicker questions. <u>Unlike the clicker quizzes, you are encouraged to work with your group to answer these clicker questions.</u> When you have arrived at an answer you must each individually key in your response. 3% of your grade is determined by your answers to these clicker questions according the following scheme: full credit for a correct response and 75% credit for an incorrect response, 0% for no response. **The two lowest cp scores will be dropped.**

- **Problem Sets:** Problems sets will be assigned on a regular basis. Some problem sets will be collected and graded. Copying problem sets will result in a grade of zero for that assignment. Doing the homework is essential step in succeeding in this class. Late problem sets will not be accepted. **Extra Credit:** For every problem that you complete correctly in Sapling you will earn 0.05 points (1%) added to the PS for that exam material up to a maximum grade of 5 (100%). Extra points will not be carried over to other PS and will not be added if no PS is turned in.

- **Exams:** There will be four exams given on: September 6th, September 25th, October 25th, and December 4th. No make-up exams will be given. Each exam will specifically test class material covered since the previous exam. However, since the nature of chemistry is cumulative I will assume that you have mastered previous material. Seating will be assigned for each exam.

- **Final Exam:** The final exam will be a multiple-choice exam. It is a comprehensive exam over the entire course. The exam will be given on Thursday, December 13th from 8-10.

- **Problem Solving Sessions: (Attend PS and earn up to three dropped clicker quizzes)**
  - PS are a fun and interactive way to enhance your understanding of the material.
  - During PS you will work on the problem sets. This can earn you "PS points".
  - Earn 1 PS point for each PS you attend and participate. You will earn a dropped clicker quiz for your 4th, 9th and 15th PS point earned.

- **Extra credit Sapling Online Homework**: Working problems is an essential portion of the process of studying organic chemistry. The main purpose of homework is primarily to give you

an incentive to keep up with the class on a weekly basis. You will have an assignment after each class. All due dates and assignment policies can be found in your Sapling Learning course. The online homework will be delivered using software called Sapling Learning. Paying online is required to use the system. Complete the Sapling Learning training materials. The activities, videos, and information pages will familiarize you with the Sapling Learning user environment and serve as tutorials for efficiently drawing molecules, stereochemistry, etc. within the Sapling Learning answer modules. These training materials are already accessible in your Sapling Learning course.

Academic Honesty:

- All exams and quizzes will be closed book/closed notes, and will be taken individually (unless otherwise instructed).
- During exams you may not use your own paper or other materials except your pen or pencil.
- Under no circumstances may a student cast votes for another student. Students caught using more than one i>clicker during lecture and the absent student will earn a zero for the i>clicker portion of the course.
- Academic dishonesty will not be tolerated. Academic dishonesty includes unauthorized use of any materials, notes, sources of information, electronic equipment, or study aids during a quiz or exam. It also includes the unauthorized assistance of any person other that the course instructor during a quiz or exam, the unauthorized viewing of another person's work during a quiz or exam, or the unauthorized securing of all or part of any quiz or exam before submission by the instructor.
- Violation of academic honesty will generate disciplinary action that may include a course grade of F. A student who is suspected of cheating must confess to all wrong doing at the first opportunity (when first confronted), or risk a harsher penalty. If you believe that there are situations in the course that foster academic dishonesty, please bring them to my attention. Likewise, if you have observed cheating, bring the details to my attention as soon as practical. Insofar as it is possible, your anonymity will be protected.

- **Calculation of Overall Average:**
  - Method 1. CQ, CP, and PS together will equal one exam score, this combined with each hour exam score, and the final exam score will be averaged together (each counting equally)
  - Method 2. The lowest exam score is dropped from the calculation and the final exam will count twice. The CQ, CP, and PS, the three best exam scores, and double the final exam score will be averaged.

- **Grading Scale:** A: 100-85; B: 84-75; C: 74-60; D 59-50; F: 49-0%
- **Note:** Last day to drop is 11:59 pm Friday, Aug 17th
  Last day to withdraw with a "W" is Oct 8th.

Group Work in Class

- The bulk of class time will be spent actively thinking, drawing structures, working with models etc. as part of a self-managed team of three students.
- Group work will not be graded. The purpose of group work is to learn the material, dispel misconceptions, and ask questions.

Group Membership

- The instructor will assign the group membership and reshuffle group membership after each exam as necessary.

E-mail: Please use CHEM 2411 as the subject line in any correspondence. Use only my westga.edu email and not the email system in Courseden.

Additional Policies:

- Students are expected to attend all classes. A large part of the learning process in this course is based on the in-class activities. If you are not here you will not have a chance to participate in those activities. There will be no makeup quizzes – if you miss a quiz it will simply be one of the two that is dropped from the calculation.
- Ringing cell phones are extremely disruptive in the classroom. Please be sure that your cell phone is turned off during class. The receiving cell phone calls and texting during class is inappropriate. Cell phones may not be visible during exams; failure to comply may result in an F for the exam.
- This syllabus outlines the policies for the course. You are responsible for understanding them. Any changes in course policy will be announced in class or on the class CourseDen site.
- Qualified students with disabilities should contact me as soon as possible to ensure that appropriate accommodations can be made.
- Please refer to the following for academic support, the honor code, email policy, credit hour policy and HB 280 campus carry policy: https://www.westga.edu/administration/vpaa/common-language-course-syllabi.php

My view of organic chemistry:

Many students view organic chemistry as a cruel hurdle placed in their path to test their tolerance for pain. Consistent with this view, many students' main goal is to survive the course with a decent grade. I encourage you to expect more from this course and yourself for two reasons:

1. I have found that students are more successful at organic chemistry when they enjoy it, so I have worked hard to create a course that students can enjoy if they work hard.
2. Organic chemistry is an opportunity to hone skills like data analysis, problem solving, and working effectively as part of a group. If you invest the time and energy you will learn skills in this course that will make you more effective in your other courses and in whatever career you choose.

Organic chemistry is not a hurdle; it is a staircase to a new and powerful way of dealing with the world. That is why, more than any other course, admissions committees and future employers care about your grade in organic chemistry.

Tentative Schedule, McMurry 9th ed.

Date	Chemactivity/Topic	McMurryReading	Problems in McMurry
August 16	1- Orbitals and Hybridization	1-1.11	1.14, 35-38, 40, 41, 47, 49-51, 57
August 21	2- Lewis Structures and Formal Charges	1.12 and 2.1-2.3	1.26,29,31,33-34,45,53, 2.7-8, 35-36, 62
August 23	3- Alkanes	3.1-3.7	3.8,16-17,22,29,33,35-36,38-40,42-44,46, 52-53
August 28	4- Cycloalkanes	4.1-4.9	4.1, 2, 4-5, 12, 13, 18, 28-32, 34-39, 42-45
August 30	5- Resonance	2.4-2.6	2.9, 10, 26, 37, 38, 56, 57, 60
September 4	6- Acids and Bases	2.7-2.11	2.11-15, 17, 24-25,40-44, 52, 55, 64
September 6	**Exam I**		
September 11	7- Alkenes	7.3-7.5	7.4-7, 9-13, 37-39, 46-47, 53
September 13	8- Energy Diagrams	7.2, 7.6, 8.6, 6.9	7.,15, 34, 48, 49,57, 8.12, 42a, 43a,b, 6.17,18
September 18	9- Addition of H-X to a π Bond	6.4-6, 6.10, 7.7-7.9	6.28,49-50,7.16-18,21,26-27,30,45,54,56-58,60, 66,69
September 20	10- Hydration - Addition of H_2O to a π Bond	8.4 8.5	8.7-10,28,38,43d, e,44c, d, 50b,d, f,46,53a, d,54
September 25	11- Reactions of Alkenes	8.2-3, 7	8.3, 6, 13, 26,27,40,42b, d, f, 43c
September 27	**Exam II**		
October 2	12-Reactions of Alkenes	8.7-8,10, 14.2-3, 9.1	8.14-16,18, 30,42c, 44a,b, 50a,e, 51-53b,c,55
October 4	Fall Break		60,67 14.2-6. 20, 27c, d, 30, 9.1, 26-27
October 9	13- Reactions of Alkynes	9.3-9	9.3, 6, 8-11, 18,19,30-34, 36
October 11	14- Synthesis	9.9	9.12-13, 36-37, 39, 42-46,50
October 16	15- Chirality	5.1-5	5.2-3, 7-11, 32, 36-50, 63, 64
October 18	16- Stereochemistry	5.6-16, 8.12-13	5.13, 16-17, 21, 52, 54-55, 65, 71, 8.20-21, 71-72
October 23	17- Radical Halogenation	10.1-10.4	10.1-7, 17,18, 22-24, 27-30, 34
October 25	**Exam III**		
October 30	18-Organometalic Reagents	10.6-7	10.9-11, 25a-e, 26c,e-g, 40-42
November 1	19-One Step Nucleophilic Substitution	11-11.3	11.1-2, 4-6, 39-43, 46, 57
November 6	20-Two Step Nucleophilic Substitution	11.4-6, 10.5	11.8-9,11-12,44-45,47-48,55-56,10.8, 20,26 b,d, 44
November 8	21-Factors Affecting S_N1 vs. S_N2 and E1	11.7	11.13, 15-16, 25,-26, 52, 67
November 13	22-Elimination	11.8-12	11.17, 19-20, 27-30, 49-51, 60, 64-66, 68
November 15	23-^{1}H-NMR	13.8-13.13 and 15.7	13.14-21, 34-36, 38-39, 42-45, 53-55, 57,58,15.41, 47
November 27	24-^{1}H-NMR		
November 29	25-^{13}CNMR	13.3-13.7	13.6-9, 11, 47, 51, 60, 63
December 4	**Exam IV**		
December 6	26- Review for final		
December 13	**Final** 8-10:00 am		