ORGANIC CHEMISTRY I - CHEM 2411
Spring 2018; TR 12:30-1:45; TLC 1203

Instructor: Dr. Vickie Geisler
Email: vgeisler@westga.edu
Office: TLC 2120
Teaching Assistant: Kimberly Marroquin
Email: kmarroq1@my.westga.edu
Office Hour: 11-12 in UCC 200B
Office Hours: M 1-4, W 1-2, T, R 10-12:15; other times by appointment
Problem-Solving Sessions: M 4-5:30 TLC 2105, T 5-6 Pafford 110, W 5:30-6:30 Pafford 109
Textbook: *Organic Chemistry*, John McMurry, 9th Ed.

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.

Sapling Learning: Optional on-line homework. Instruction on how to enroll and pay can be found at http://macmillanlearning.com/Catalog/elearningbrowsebymediatype/SaplingLearning. Sapling Learning offers a grace period on payment (14 days from the first day of the term). During sign up or throughout the term, if you have any technical problems, please send an email to support@saplinglearning.com explaining the issue.

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

Course Website: Enrolled students will have access to a CourseDen site where I will post grades, and PowerPoint presentations (after the class in which they were used).

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: 1/30, 2/20, 3/15, 4/24	66.67%	
	Final Exam – Thursday, May 3, 11-1 pm		16.67%
			100 %
OR			
	Clicker Quizzes (one at start of each lecture)		4%
	Clicker Participation (CP) during each lecture		3%

Problem Sets	4.86%
Sapling Online homework	4.8%
Exams: 1/30, 2/20, 3/15, 4/24	66.67%
Final Exam – Thursday, May 3, 11-1 pm	16.67%
	100 %

- **Notes on Quizzes and Exams: <u>All clicker quizzes and exams will be taken individually</u>**.
- **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. 2.5% 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.
- **Online Homework**: Working problems is an essential portion of the process of studying organic chemistry. It is suggested that you sign up and complete a series of online homework problems. You will have an assignment after each class. All due dates and assignment policies can be found in your Sapling Learning course. You will have up to three attempts for each question. You will loss 20% of the points earned for each day late. 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.
- **Exams:** There will be four exams given on: January 30th, February 20th, March 15th and April 24th. 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, May 3rd from 11-1.
- **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.

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 with more than one i>clicker during lecture will have the i>clickers in their possession confiscated. Users of all clickers confiscated will receive 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, PS and online HW 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. 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 3. The lowest exam score is dropped from the calculation and the final exam will count twice.

- **Grading Scale:** A: 100-85; B: 84-75; C: 74-60; D 59-50; F: 49-0%
- **Note:** Last day to drop is Wednesday, Jan 11th
  Last day to withdraw with a "W" is February 28th

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.

E-mail: Please use CHEM 2411 as the subject line in any correspondence.

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 silenced 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.

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 maintain a positive attitude, so I have worked hard to create a course that students can enjoy <u>if they work hard</u>.
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.

<u>Organic chemistry is not a hurdle; it is a staircase to a new and powerful way of dealing with the world</u>. 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
January 9	1- Orbitals and Hybridization	1-1.11	1.14, 35-38, 40, 41, 47, 49-51, 57
January 11	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
January 16	3- Alkanes	3.1-3.7	3.8,16-17,22,29,33,35-36,38-40,42-44,46, 52-53
January 18	4- Cycloalkanes	4.1-4.9	4.1, 2, 4-5, 12, 13, 18, 28-32, 34-39, 42-45
January 23	5- Acids and Bases	2.7-2.11	2.11-15, 17, 24-25,40-44, 52, 55, 64
January 25	6- Resonance	2.4-2.6	2.9, 10, 26, 37, 38, 56, 57, 60
January 30	**Exam I**		
February 1	7- Alkenes	7.3-7.5	7.4-7, 9-13, 37-39, 46-47, 53
February 6	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
February 8	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
February 13	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
February 15	11- Reactions of Alkenes	8.2-3, 7	8.3, 6, 13, 26,27,40,42b, d, f, 43c
February 20	**Exam II**		
February 22	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 60,67 14.2-6. 20, 27c, d, 30, 9.1, 26-27
February 27	13- Reactions of Alkynes	9.3-9	9.3, 6, 8-11, 18,19,30-34, 36
March 1	14- Synthesis	9.9	9.12-13, 36-37, 39, 42-46,50
March 6	15- Chirality	5.1-5	5.2-3, 7-11, 32, 36-50, 63, 64
March 8	16- Stereochemistry	5.6-16, 8.12-13	5.13, 16-17, 21, 52, 54-55, 65, 71, 8.20-21, 71-72
March 13	17- Radical Halogenation	10.1-10.4	10.1-7, 17,18, 22-24, 27-30, 34
March 15	**Exam III**		
March 27	18-Organometalic Reagents	10.6-7	10.9-11, 25a-e, 26c,e-g, 40-42
March 29	19-One Step Nucleophilic Substitution	11-11.3	11.1-2, 4-6, 39-43, 46, 57
April 3	Scholar's Day		
April 5	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
April 10	21-Factors Affecting S_N1 vs. S_N2 and E1	11.7	11.13, 15-16, 25,-26, 52, 67
April 12	22-Elimination	11.8-12	11.17, 19-20, 27-30, 49-51, 60, 64-66, 68
April 17	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
April 19	24-^{13}CNMR	13.3-13.7	13.6-9, 11, 47, 51, 60, 63
April 24	**Exam IV**		
April 26	25- Review		
May 3	**Final** 11-1:00 pm		