

# CHEM 2423.101H3 Organic Chemistry 1 Fall 2025

# Tuesdays & Thursdays from 8:00 AM – 9:40 AM in STEAM 401 Online through D2L Brightspace

Instructor Information: Luke Turner | <a href="mailto:ltmrer16@com.edu">ltmrer16@com.edu</a> | 409-933-8433

#### **Student hours and location:**

| Monday    | **Virtual Office Hours | **Virtual Office Hours by Appointment** |  |  |
|-----------|------------------------|---|--|--|
| Tuesday   | 09:45 - 12:30          | STEAM 325-23 & Virtual                  |  |  |
| Wednesday | 14:00 - 15:00          | STEAM 325-23 & Virtual                  |  |  |
| Thursday  | 09:45 - 12:30          | STEAM 325-23 & Virtual                  |  |  |
| Friday    | 11:00 - 12:00          | STEAM 325-23 & Virtual                  |  |  |
| Saturday  | **Virtual Office Hours | **Virtual Office Hours by Appointment** |  |  |
| Sunday    | **Virtual Office Hours | **Virtual Office Hours by Appointment** |  |  |
|           |                        |   |  |  |

**Required Textbook/Materials:** Links to the online textbook and Aktiv Learning homework system (including enrollment instructions) will be accessible in D2L Brightspace (D2L) at the start of the semester.

*Required Textbook:* McMichael, K. Organic Chemistry – A "Carbonyl Early" Approach [Online]; Creative Commons, 2024. [Creative Commons License CC BY-NC-SA 4.0]

**Supplemental Textbooks:** Reusch, W. <u>Virtual Text of Organic Chemistry</u> [Online]; Creative Commons, 2010. [Creative Commons License CC BY-NC-SA 4.0]; Solderberg, T. <u>Organic Chemistry with a Biological Emphasis Volume I</u> [Online]; Chemistry Publications, 2019. [https://digitalcommons.morris.umn.edu/chem\_facpubs/1

Your textbook for this class is immediately available for free online. If you prefer, you can also obtain a printed version at a very low cost. However, before purchasing a hard copy of the textbook, consider that I will only use this resource sparingly as a reference tool. I will also provide links to other FREE resources such as online textbooks, YouTube videos and various other materials (including **ME**) that will be made available to you at no cost.

The only cost you should incur relating to course materials relates to the homework system described below. We will use this homework system routinely in class, outside of class and for assessments (quizzes and exams). You will find that I do not emphasize reading assignments in the textbook, mainly due to the ineffectiveness of passive reading for mastering problem-solving skills in science. Since I began teaching in 2006, textbooks (all versions) have served a diminished role in my classes, and this trend continues to this day. Chemistry is all about solving problems

and that's where we will focus our attention. As with any subject, some of the course content involves recitation of terminology, facts, and figures that I will explicitly emphasize to you. I have performed a "literary liposuction" of the textbook in preparation for this course; that is, I weed out the fluff and useless portions of this bloated resource so that you will not be left in the dark trying to figure out what to study. Please pursue any additional reading that interests you or you find helpful, but my reliance on the textbook will be minimal and that is reflected in my sparse references to this resource.

**Recommended Homework System:** The Aktiv Learning all-in-one platform system is an online homework, assessment, and content management system. Instructions for creating an Aktiv Learning system account and registering for the course are provided on the course information page located in D2L Brightspace (D2L). Once you have registered and enrolled, you can log in at any time to complete or review your homework assignments. During sign up or throughout the term, if you have any technical problems, go to <a href="http://www.aktiv.com/support">http://www.aktiv.com/support</a> and access the help does or select one of the support contact options.

*Additional Materials:* An inexpensive scientific calculator (e.g., TI-30). I will also have calculators available for you in class and for exams. There are free apps for your mobile devices and you can also use the calculator embedded in the Microsoft or Apple operating systems.

**Computer Requirements:** You will need to have access to a computer with the following resources:

- Internet access through a wired Ethernet or wireless connection
- A contemporary web browser capable of viewing flash video
- Java installed and updated
- A COM <u>e-mail account</u> (COM provides free e-mail for students)
- <u>Microsoft Office, Microsoft OneNote, and Microsoft Teams</u> (COM offers free Office 365 access for students)
- A PDF reader like Adobe Reader

Course Description: Fundamental principles of chemistry for majors in the sciences, health sciences, and engineering; topics include measurements, fundamental properties of matter, states of matter, chemical reactions, chemical stoichiometry, periodicity of elemental properties, atomic structure, chemical bonding, molecular structure, solutions, properties of gases, and an introduction to thermodynamics and descriptive chemistry. Basic laboratory experiments supporting theoretical principles presented in class; introduction of the scientific method, experimental design, data collection and analysis, and preparation of laboratory reports. Access link to catalog course description: <a href="http://tinyurl.com/mr3ckcb6">http://tinyurl.com/mr3ckcb6</a>

**Course Requirements:** This course is designed as a nontraditional *flipped* class, meaning that we will work problems in class and acquire traditional lecture materials and notes outside of class. For example, I may post notes and a link to an instructional video about a specific topic, which you would review prior to coming to class, along with some introductory problems. Our class time

would then be used as a workshop, to develop and hone our problem-solving skills, as well as address any questions or misconceptions with the associated material.

So why are some instructors, including myself, adopting the "flipped class" approach to learning? The application of lecture as a means of instruction is quite literally an ancient technique. Prominent Greek philosophers practiced the lecture format as an effective means of disseminating information and stoking fruitful debate and discussions. To their credit, in 500 BC, what else were philosophers going to do? In the absence of streaming video, PowerPoint, or even an overhead projector, the best option was to slip on your sandals and head to the lyceum (lecture hall). However, even in 500 BC, the writing was on the wall regarding the limitations of this rather mundane mode of instruction. For example, Pythagoras instructed his students to come to class in a fasted state so that their focus would sharpen for the duration of the lecture. Whilst studies have shown fasting to have promising effects on mental clarity, technology now allows us to forego the lecture format altogether. Abandoning the traditional lecture format that was established by Western European universities over 900 years ago<sup>2</sup> presents a challenging, albeit worthwhile, undertaking. For science, technology, engineering, and mathematics (STEM) courses, this outdated approach is particularly problematic. A prominent research study of STEM instruction focused on supplanting lectures with more active teaching methods reports improved student performance and a 50% reduction in failure rate.<sup>3</sup> Carl Wieman,<sup>4</sup> a Nobel Prize winning physics professor, aptly describes his preference for an active classroom environment in the following statement:

If a new antibiotic is being tested for effectiveness, its effectiveness at curing patients is compared with the best current antibiotics and not with treatment by bloodletting. However, in undergraduate STEM education, we have the curious situation that, although more effective teaching methods have been overwhelmingly demonstrated, most STEM courses are still taught by lectures – the pedagogical equivalent of bloodletting.

In the same academic spirit, we shall endeavor to pursue the course learning objectives in an active fashion, and not through a lecture-based "bloodletting" approach.

There will be many forms of assessment in this course apart from the required exams. While homework will be assigned to ensure comprehension of the requisite learning objectives, I will not collect and grade these assignments for credit. Chemistry requires a hands-on approach; therefore YOU will be expected to independently investigate suggested homework problems and seek assistance for concepts that are problematic. Many class sessions will consist of group work and activities that will be assessed for completion and effort, but seldom for accuracy. In addition,

<sup>&</sup>lt;sup>1</sup> Mattson, M. P.; Moehl, K.; Ghena, N.; Schmaedick, M.; Cheng, A. Nat. Rev. Neurosci. 2018, 19, 81–94.

<sup>&</sup>lt;sup>2</sup> Brockliss, L. Curricula. In *A History of the University in Europe;* De Ridder-Symoens, H., Ed.; Cambridge Univ. Press: Cambridge, U.K., 1996; Vol. 2, pp 565–620.

<sup>&</sup>lt;sup>3</sup> Freeman, S.; Eddy, S. L.; McDonough, M.; Smith, M. K.; Okoroafor, N.; Jordt, H.; Wenderoth, M. P. *Proc. Natl. Acad. Sci. U. S. A.* **2014**, *111*, 8410 – 8415.

<sup>&</sup>lt;sup>4</sup> Wieman, C. *Improving How Universities Teach Science: Lessons from the Science Education Initiative;* Harvard Univ. Press: Cambridge, MA, 2017.

alternative assessments will be given as an opportunity to demonstrate content mastery and through nontraditional methods. Apart from completing four out of five exams and 70% of the lab experiments, all other forms of assessment are completely optional; you will not be penalized for failure to complete homework, quizzes, class activities, discussion boards, or other alternative assessments. Under this system, students choose their own assessment criteria. If you elect to only complete the required exams, then your final grade will be determined solely from your performance on these assessments. I will not offer extra credit assignments; instead, I have implemented numerous assessments that, in some instances, will only require participation. By choosing to complete these optional assessments, you will not only benefit from investigating relevant concepts addressed on exams, but you will also diversify your personal assessment portfolio in the course. An unsatisfactory performance on an exam can be offset by your participation in the optional assessments, however if you choose to complete only the minimum course requirements, your assessment "basket" will be heavily weighted by exams. As a college student vou are faced with many choices, and the decision to complete optional components of this course is entirely up to you! Please do not approach me in the last quarter of the semester requesting extra credit or grade adjustments. I will provide many opportunities for assessment outside of the five semester exams; however, YOU must take responsibility for their meaningful pursuit and timely completion. Laboratory experiments will be conducted weekly and the lowest three lab submissions will be dropped. Additionally, the exams will include material directly related to laboratory experiments, therefore regular attendance and completion of lab is important.

| Assessment               | Approximate Point Value | Overall Average | Grade |
|--------------------------|-------------------------|-----------------|-------|
| 5-6 Exams (Drop Lowest*) | 400 - 600 pts           | ≥89.5%          | A     |
| Class Activities**       |                         | 79.5-89.4%      | В     |
| Quizzes**                | 0 - 200 pts             | 69.5-79.4%      | C     |
| Homework**               |                         | 59.5-69.4%      | D     |
| Lab (Drop Lowest 3)      | 100 - 150 pts           | ≤59.5%          | F     |

<sup>\*</sup>If all exams are completed and satisfactory class participation is achieved, at the discretion of the instructor. \*\*Optional components; no penalty for missed assignments or incomplete submissions *unless* indicated otherwise.

#### Other grade assignments:

FN — An FN may be assigned at the discretion of the instructor in accordance with college policy.

I — An incomplete may be assigned at the discretion of the instructor in accordance with college policy.

W — A withdrawal may be assigned in accordance with college policy.

Late Work, Make-Up, and Extra-Credit Policy: Since this course is designed with a significant portion of content that is optional and penalty-free with flexible deadlines, no make-up or extra credit assignments will be offered. The five scheduled semester exams allow for a dropped score that absorbs a missed testing day. The laboratory schedule also accommodates three absences without impacting grade performance. These "safety rails" are intended to act as buffers against any tumult that can arise during a semester. Situations that exhaust this buffer capacity would likely entail other actions such as a course withdrawal (W), incomplete (I) grade assignment, and/or a retake of the course. Such extenuating circumstances would require individual consideration which cannot be equitably addressed herein.

Attendance Policy: All students registered in this class are expected to attend all face-to-face sessions. This policy follows the attendance policies prescribed in the current College Catalog. (http://coursecatalog.com.edu). Failing to attend class, log into D2L, or to complete your work as scheduled demonstrates poor progress towards obtaining the course goals (objectives) and is detrimental to learning course material. If you fail to attend class or fail to log into D2L Brightspace and are demonstrating poor progress towards obtaining the course goals (objectives), the instructor may administratively withdraw you from the course. Examples of insufficient progress include, but are not limited to, failure to log into D2L Brightspace for a one-week period, failure to complete the required exams, failure to attend and complete 70% or more of the labs, failure to maintain a passing average for the class, or demonstrating poor progress towards obtaining the course goals (objectives). An administrative withdrawal for insufficient progress is solely at the discretion of your instructor.

Communicating with your instructor: ALL electronic communication with the instructor must be through your COM email. Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means. The best way to reach your instructor is by email. Please use your @com.edu email address. Expect that emails from other sources will be filtered from my inbox and you will receive no reply. If you prefer to meet with me virtually, please make an appointment. I will strive to reply to emails from @com.edu addresses, which are made on weekdays, within twenty-four hours. Replies to voice messages left on my office telephone will take longer for me to reply than an email. Also, I will most likely reply to a voice message by email.

| Student Learner Outcome |   | Maps to Core<br>Objective                 | Assessment(s)                           |
|-------------------------|---|---|---|
| 1.                      | Draw condensed structural formulas, bond-line formulas, perspective drawings, Newman projections, Fischer projections, Kekulé structures and Lewis structures of organic molecules  | Critical Thinking                         | Selected Exam Questions                 |
| 2.                      | Apply the principles of Valence Shell Electron Pair Repulsion (VSEPR) Theory to ascertain the molecular geometry and bond angles of complex organic molecules   | Critical Thinking<br>Communication Skills | Selected Exam Questions<br>Presentation |
| 3.                      | Apply the principles of the Valence Bond Model to ascertain the hybridization of atoms involved in bonding and to describe sigma and pi bonding   | Critical Thinking                         | Selected Exam Questions                 |
| 4.                      | Apply the principles of Molecular Orbital (MO) Theory to construct MO diagrams, identify bonding MOs, anti-bonding MOs, the Highest Occupied Molecular Orbital (HOMO), the Lowest Unoccupied Molecular Orbital (LUMO), nodal planes and the relationship that exists between molecular stability and reactivity | Critical Thinking                         | Selected Exam Questions                 |
| 5.                      | Use curved arrows to interconvert between resonance contributors  | Critical Thinking                         | Selected Exam Questions                 |
| 6.                      | Distinguish between equivalent, major and minor resonance contributors  | Empirical and Quantitative Skills         | Selected Exam Questions                 |
| 7.                      | Evaluate the relative contribution that various resonance structures provide to the resonance hybrid  | Critical Thinking                         | Selected Exam Questions                 |
| 8.                      | Discuss the relationship between structure and acidity, basicity, nucleophilicity and electrophilicity  | Critical Thinking                         | Selected Exam Questions                 |
| 9.                      | Interpret Maps of Electrostatic Potential (MEPs) to discern sites of nucleophilicity and/or electrophilicity  | Critical Thinking                         | Selected Exam Questions                 |
| 10.                     | Assess whether substances are constitutional isomers, conformers, stereoisomers, enantiomers, diastereomers, resonance structures, identical or unrelated   | Critical Thinking                         | Selected Exam Questions                 |
| 11.                     | Predict the relative stability of alkane and substituted alkane conformers, substituted cyclohexane conformers, cycloalkanes, alkenes, dienes, polyenes, carbocations and free radicals   | Empirical and<br>Quantitative Skills      | Selected Exam Questions                 |
| 12.                     | Detect to which functional group(s) an organic compound belongs   | Critical Thinking                         | Selected Exam Questions                 |
|                         | Designate the intermolecular force(s) present in organic molecules  | Empirical and Quantitative Skills         | Selected Exam Questions                 |
| 14.                     | Discuss the relationship that exists between chemical and physical properties of families of carbon compounds and their composition   | Team Work                                 | Selected Experiment Grades              |
| 15.                     | Predict relative physical properties such as boiling point, melting point, water solubility and molecular polarity of families of carbon compounds  | Critical Thinking                         | Selected Experiment Grades              |
| 16.                     | Draw specified types of constitutional isomers, conformers and stereoisomers within families of carbon compounds  | Team Work                                 | Selected Experiment Grades              |
| 17.                     | Assess whether a specified family of carbon compound can behave as a Bronsted-Lowry acid, Bronsted-Lowry base, Lewis acid, Lewis base, nucleophile and/or electrophile  | Empirical and<br>Quantitative Skills      | Selected Experiment Grades              |
| 18.                     | Predict the relative acid strength, $pK_a$ and base strength of families of carbon compounds  | Empirical and Quantitative Skills         | Selected Experiment Grades              |

| Student Learner Outcome  | Maps to Core<br>Objective                 | Assessment(s)                           |
|--|---|---|
| 19. Name alkanes, alkyl halides, alkenes, alkynes, alcohols, ethers and epoxides when a condensed structural formula, bond-line formula, Fischer projection or a Lewis structure is provided   | Critical Thinking                         | Selected Exam Questions                 |
| 20. Draw the structure of alkanes, alkyl halides, alkenes, alkynes, alcohols, ethers and epoxides when a substance's IUPAC name and, in some instances, when its common name is provided   | Critical Thinking<br>Communication Skills | Selected Exam Questions<br>Presentation |
| 21. Name stereoisomers written as perspective drawings, Newman projections or Fischer projections  | Critical Thinking                         | Selected Exam Questions                 |
| 22. Draw the structure of stereoisomers as perspective drawings, Newman projections or Fischer projections when its IUPAC name is provided   | Critical Thinking                         | Selected Exam Questions                 |
| 23. Outline the molecular attributes that generate chirality, stereoisomers, enantiomers, diastereomers, meso compounds, optical activity and racemic mixtures   | Critical Thinking                         | Selected Exam Questions                 |
| 24. Describe the relationship that exists between the optical rotation and specific rotation of chiral substances, achiral substances and racemic mixtures   | Empirical and Quantitative Skills         | Selected Exam Questions                 |
| 25. Apply the Cahn-Ingold-Prelog Rules to assign stereochemical configuration to perspective drawings, Newman projections and Fischer projections  | Critical Thinking                         | Selected Exam Questions                 |
| 26. Ascertain the geometric configuration ( <i>cis</i> or <i>trans</i> and/or <i>E</i> or <i>Z</i> ) of disubstituted cycloalkanes and alkenes having at least two stereocenters   | Critical Thinking                         | Selected Exam Questions                 |
| 27. Predict the maximum number of stereoisomers in a compound  | Critical Thinking                         | Selected Exam Questions                 |
| 28. Predict the stereochemical outcome of stereospecific reactions involving alkyl halides, alkenes, alkynes, alcohols, ethers and epoxides  | Critical Thinking                         | Selected Exam Questions                 |
| 29. Predict the stability of compounds such as cycloalkanes, alkenes and free radicals by examining thermodynamic data   | Empirical and Quantitative Skills         | Selected Exam Questions                 |
| 30. Predict the relative magnitude of the equilibrium constant ( $K$ ) and standard free-energy ( $\Delta G^{\circ}$ ) of acid-base reactions  | Critical Thinking                         | Selected Exam Questions                 |
| 31. Evaluate potential energy diagrams to determine the relative energy of reactants and products and to establish whether a reaction is endothermic, exothermic, endergonic or exergonic  | Empirical and Quantitative Skills         | Selected Exam Questions                 |
| 32. Evaluate potential energy diagrams to determine the relative stability of conformers   | Empirical and Quantitative Skills         | Selected Exam Questions                 |
| 33. Justify the observed product distribution in thermodynamically controlled addition reactions involving dienes and polyenes   | Team Work                                 | Selected Experiment Grades              |
| 34. Evaluate potential energy diagrams of substitution (S <sub>N</sub> 1 and S <sub>N</sub> 2) and elimination (E1 and E2) reactions to point out the number of mechanistic steps involved in a reaction and their energy of activation, which are fast steps and which is the rate determining step, and where along the reaction coordinate the location of transition states and reaction intermediates are found | Critical Thinking                         | Selected Experiment Grades              |
| 35. Predict the molecularity for the most predominant mechanistic pathway that substitution (S <sub>N</sub> 1 and S <sub>N</sub> 2) and elimination (E1 and E2) reactions are expected to take depending on existing reaction conditions ( <i>e.g.</i> , substrate identity, nucleophile/base identity, leaving group identity, solvent identity and temperature)  | Team Work                                 | Selected Experiment Grades              |

| Student Learner Outcome                     |   | Maps to Core<br>Objective                 | Assessment(s)                           |
|---|---|---|---|
| pathway the<br>and E2) rea<br>reaction con  | ate law for the most predominant mechanistic at substitution (S <sub>N</sub> 1 and S <sub>N</sub> 2) and elimination (E1 actions are expected to take depending on existing anditions (e.g., substrate identity, nucleophile/base aving group identity, solvent identity and e) | Critical Thinking                         | Selected Exam Questions                 |
| substitution<br>reactions re<br>as, changin | change in rate and product distribution of (S <sub>N</sub> 1 and S <sub>N</sub> 2) and elimination (E1 and E2) esulting from reaction condition manipulations, such g the solvent concentration, nucleophile/base on, solvent polarity/dielectric constant or                   | Critical Thinking<br>Communication Skills | Selected Exam Questions<br>Presentation |
| $(S_N 1 \text{ and } S_N$                   | otential energy diagrams of substitution reactions (2), elimination reactions (E1 and E2) and 1,2– and on reactions to dienes   | Critical Thinking                         | Selected Exam Questions                 |
| and elimina reaction cor                    | relative reaction rate of substitution (S <sub>N</sub> 1 and S <sub>N</sub> 2) tion (E1 and E2) reactions depending on existing aditions ( <i>e.g.</i> , substrate identity, nucleophile/base ving group identity, solvent identity and   | Critical Thinking                         | Selected Exam Questions                 |
| reactions of                                | relative reaction rate of free-radical halogenation alkanes depending on existing reaction conditions ate identity and identity of halogen)   | Critical Thinking                         | Selected Exam Questions                 |
| 41. Justify the o                           | observed product distribution in kinetically controlled actions involving dienes and polyenes   | Empirical and Quantitative Skills         | Selected Exam Questions                 |
| 42. Predict the                             | molecular outcome of combustion reactions   | Critical Thinking                         | Selected Exam Questions                 |
| reactions                                   | outcome of Brønsted-Lowry and Lewis acid-base   | Critical Thinking                         | Selected Exam Questions                 |
| catalytic red                               | molecular and stereochemical outcome of the duction of alkenes and alkynes with hydrogen  | Critical Thinking                         | Selected Exam Questions                 |
| metal reduc                                 | molecular and stereochemical outcome of dissolving tion reactions of alkynes  | Critical Thinking                         | Selected Exam Questions                 |
| -   | molecular and stereochemical outcome of reactions of alkyl halides, alkyl sulfonates and  | Critical Thinking                         | Selected Exam Questions                 |
|   | molecular and regiochemical outcome of free-radical<br>n reactions of alkanes and free-radical allylic<br>reactions   | Critical Thinking                         | Selected Exam Questions                 |
|   | molecular, stereochemical and regiochemical elimination reactions of alkyl halides, alkyl alcohols  | Critical Thinking                         | Selected Exam Questions                 |
|   | molecular, stereochemical and regiochemical addition reactions of alkenes and alkynes   | Critical Thinking                         | Selected Exam Questions                 |
|   | molecular, stereochemical and regiochemical ring opening reactions involving epoxides   | Critical Thinking                         | Selected Exam Questions                 |
| outcome of reactions in                     | molecular, stereochemical and regiochemical simple addition, conjugate addition and Diels-Alder volving dienes  | Critical Thinking                         | Selected Exam Questions                 |
| 52. Illustrate the                          | e mechanism involved in acid-based reactions  | Critical Thinking                         | Selected Exam Questions                 |

| Student Learner Outcome   | Maps to Core<br>Objective | Assessment(s)           |
|---|---------------------------|-------------------------|
| 53. Illustrate the mechanism involved in addition reactions of halogens to alkenes  | Critical Thinking         | Selected Exam Questions |
| 54. Illustrate the mechanism involved in Markovnikov and anti-Markovnikov addition reactions  | Critical Thinking         | Selected Exam Questions |
| 55. Illustrate the mechanism involved in free-radical substitution reactions of alkanes   | Critical Thinking         | Selected Exam Questions |
| 56. Illustrate the mechanism involved in free radical allylic substitution reactions  | Critical Thinking         | Selected Exam Questions |
| 57. Illustrate the mechanism involved in S <sub>N</sub> 2 reactions, S <sub>N</sub> 1 reactions, E1 reactions and E2 reactions of alkyl halides         | Critical Thinking         | Selected Exam Questions |
| 58. Illustrate the mechanism involved in Diels-Alder reactions  | Critical Thinking         | Selected Exam Questions |
| 59. Illustrate the mechanism involved in reactions involving carbocation rearrangement  | Critical Thinking         | Selected Exam Questions |
| 60. Produce plausible reaction sequences to prepare and transform hydrocarbons such as alkanes, alkenes and alkynes from appropriate starting materials | Critical Thinking         | Selected Exam Questions |
| 61. Produce plausible reaction sequences to prepare and transform alkyl halides from appropriate starting materials                                     | Critical Thinking         | Selected Exam Questions |
| 62. Produce plausible reaction sequences to prepare and transform alcohols from appropriate starting materials  | Critical Thinking         | Selected Exam Questions |
| 63. Produce plausible reaction sequences to prepare and transform ethers from appropriate starting materials  | Critical Thinking         | Selected Exam Questions |
| 64. Produce plausible reaction sequences to prepare and transform epoxides from appropriate starting materials  | Critical Thinking         | Selected Exam Questions |

**Academic Dishonesty:** Any incident of academic dishonesty will be dealt with in accordance with college policy and the Student Handbook. Academic dishonesty, such as cheating on exams, plagiarism, or collusion, is an extremely serious offense and will result in at least a grade of zero on that assignment and the student will be referred to the Office of Student Conduct for the appropriate disciplinary action. Additionally, administrative withdrawal from the course prior to the withdrawal deadline for the semester or being assigned a grade of F after the withdrawal deadline are possible and solely at the discretion of your instructor.

**Student Concerns:** If you have any questions or concerns about any aspect of this course, please contact me using the contact information previously provided. If, after discussing your concern with me, you continue to have questions, please contact Ms. Sheena Abernathy, Science Department Chair, at 409-933-8330/sabernathy@com.edu.

<u>Tentative</u> Course outline: The course schedule will be updated weekly in *D2L and should be your primary resource* for accessing learning materials and class scheduling. A *tentative* outline is tabulated below:

| Weeks | Topics  | Exam Date |
|-------|---|-----------|
| 1-2   | Structure, Bonding, Reactivity and Stability of Organic Molecules       | See D2L   |
| 3-4   | Classifying, Naming, and Characteristic Properties of Organic Molecules | See D2L   |
| 5-6   | Spatial Arrangement, Properties and Reactivity of Stereoisomers         | See D2L   |
| 7-8   | Thermodynamic & Kinetic Principles of Organic Chemistry                 | See D2L   |
| 9-10  | Classifying and Illustrating Organic Reactions with Curved Arrows       | See D2L   |
| 11-12 | Nucleophilic Substitution & Elimination Reactions                       | See D2L   |
| 13-15 | Acid-Base Reactions, Enolization & Carbon-Hydrogen Bond Activation      | See D2L   |

### **Institutional Policies and Guidelines**

**Grade Appeal Process: Concerns** about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the student handbook <a href="https://www.com.edu/student-services/student-handbook.html">https://www.com.edu/student-services/student-handbook.html</a>. An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal.

**Academic Success & Support Services: College** of the Mainland is committed to providing students the necessary support and tools for success in their college careers. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

**ADA Statement:** Any student with a documented disability needing academic accommodation is requested to contact:

Kimberly Lachney, Student Accessibility Services Coordinator

Phone: 409-933-8919

Email: AccessibilityServices@com.edu

Location: COM Doyle Family Administration Building, Student Success Center

**Textbook Purchasing Statement:** A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

**Withdrawal Policy:** Students may withdraw from this course for any reason prior to the last eligible day for a "W" grade. Before withdrawing students should speak with the instructor and consult an advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 1<sup>st</sup> 8-week session is October 1. The last date to withdraw from the 16-week session is November 14. The last date to withdraw for the 2<sup>nd</sup> 8-week session is November 25.

**FN Grading:** The FN grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The FN grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw. The issuing of the FN grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an FN grade.

Early Alert Program: The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer in order for you to meet your academic goals.

#### **Resources to Help with Stress:**

If you are experiencing stress or anxiety about your daily living needs including food, housing or just feel you could benefit from free resources to help you through a difficult time, please click here <a href="https://www.com.edu/community-resource-center/">https://www.com.edu/community-resource-center/</a>. College of the Mainland has partnered with free community resources to help you stay on track with your schoolwork, by addressing life issues that get in the way of doing your best in school. All services are private and confidential. You may also contact the Dean of Students office at <a href="maintenance-deanoft-de

## **Nondiscrimination Statement:**

The College District prohibits discrimination, including harassment, against any individual on the basis of race, color, religion, national origin, age, veteran status, disability, sex, sexual orientation, gender (including gender identity and gender expression), or any other basis prohibited by law. Retaliation against anyone involved in the complaint process is a violation of College District policy.