EAST TEXAS A&M UNIVERSITY

CHEM 2325 ORGANIC CHEMISTRY II

Instructor Information

Dr. Stephen Starnes
Email: Stephen.Starnes@etamu.edu
Office: Science 339
Phone: 903-886-5389

Course Time Zone: Central Time USA

Online Office Hours: I will be available during the week by appointment using the video conferencing service Zoom, during which you can ask questions. If you are on campus, you can also come by my office to ask questions in person.

Course Materials

Textbook: Organic Chemistry, Concepts and Applications" 1st Edition, Headley, A. D., John Wiley & Sons; ISBN-13: 9781119504672. The Student Companion website for the textbook is: http://bcs.wiley.com/hebcs/Books?action=index&bcsId=11621&itemId=1119504589

Supplementary textbook (optional, not required but recommended): *Organic Chemistry, 8th Ed.*, L. G. Wade, Jr. ISBN-13: 978-0321768414 ** A newer edition is the 9th edition but using an older edition of the text will reduce your textbook cost if you choose to purchase the supplementary textbook, 9th edition: ISBN-13: 978-0321971371

A molecular model set is recommended. I suggest the Molecular Visions Organic Model Kit by Darling Models, Inc. which can be found used for ~ $20.00 (I have this set and find it very useful and convenient to use). Note that models may also be used during exams. This site also has suitable model sets: https://duluthlabs.com/

The details of the course structure are given below. Any changes will be communicated via email and announcement on MyLeo Online. Your ETAMU email account will be used at all times, and it will be your responsibility to check it regularly (at least once every 24 hours).

Course Description: 3 Semester Hours: A continuation of Chemistry 2323. The chemistry of polyfunctional aliphatic compounds such as alcohols, aldehydes, ketones, amines, carboxylic acids and derivatives, ethers, sulfides, epoxides, aromatic compounds, amino acids and proteins, sugars, and carbohydrates, polycyclic and heterocyclic compounds. Spectroscopy (NMR, IR, MS and Uv/Vis) is reviewed. Prerequisites: CHEM 2323 with a grade of "C" or better. Corequisites: CHEM 202.

Grading

Your course grade (1000 points total) will be broken down as follows: four regular exams (200 points each, 20% each, 80% total of the course grade) and a comprehensive final examination (200 points, 20% of the course grade). The key and score distribution for each of the first four exams will be e-mailed out after each exam. All exams will be open book although it is strongly recommended that you do not rely on a textbook for an exam as you likely will not have time to refer to one since the exams are timed.

There will be absolutely no make-ups for exams. If you miss one of the first four exams, the points for the missed exam will be placed on the final exam making your final exam a greater proportion of your final course grade. If you miss more than one exam you will be assigned a grade of zero for the missed assignment(s). The last drop date for the course is *July 27, 2026*. Grading will be based on a standard percentage scale: 100-90 = A; 89-80 = B; 79-70 = C; 69-60 = D; 59-below = F. Dishonest scholarship will earn an automatic zero (0) and initiate prosecution to the fullest extent. Incomplete grades may be given only if the student has a current average ≥70% and is precluded from completion of the course by a documented illness or family crisis.

You will only be able to take exams once. Once you begin taking an exam, you will have a time limit of three hours to complete it. Once completed, you cannot return to it and revise your answers. After everyone completes and submits their exam. you will see your score, what answers you got wrong and the correct answers. I will e-mail out a key to each exam once the exams are graded.

Lecture Learning Outcomes / Course Objectives

By the end of the semester I intend for my students to have realized a number of objectives.

1. Know how to determine the structure of an organic molecule using spectroscopic techniques such as NMR, IR, UV/vis and MS.
2. Relate the structure and functional groups found in a given molecule to their physical and chemical properties. This includes learning to predict the reactivity of molecules.
3. Gain a perspective of the role organometallic reagents play in organic chemistry by using these reagents for organic synthesis.
4. Learn methods for interconversion of functional groups and the synthesis of some simple molecules from more readily available materials. This is important, as nature does not provide everything we need but it does make the raw materials for their synthesis available.
5. Know mechanistic pathways in organic reactions such as electrophilic aromatic substitution, addition-elimination, condensation such as the Aldol, pericyclic mechanisms, substitutions and eliminations.
6. Know the importance of organic chemistry and its relationship to various other disciplines such as biochemistry and medicinal chemistry and our daily lives.

Student Responsibilities or Tips for Success in the Course: Pointers to Succeed

Useful Learning Techniques

1. Read the chapter notes
2. Watch all lecture videos
3. Take good class notes over the videos
4. Ask questions ASAP if the material is not understood
5. Read the chapter several times
6. Correct ALL quizzes and exams & review them!!!
7. Work all of the in-text problems
8. Work ALL of the chapter end problems
9. Study consistently!!
10. Use supplemental material/questions (Internet, other textbooks, etc.)
11. Use flash cards
12. Use a study group (3-5 people)
13. Take advantage of instructor's office availability
14. Take notes as you read the chapters
15. Summarize your lecture notes
16. Try the learning center (for test anxiety/tutor)
17. Get a tutor
18. Use molecular models
19. Use instructors review notes/problems

This course demands the utmost in disciplined study habits, diligence in working problems, and the commitment to learn and understand the material. The only way to understand organic chemistry is to attend lecture and take quality notes, work problems, ask questions, and *work more problems!* It is NOT a good idea to memorize solutions to problems. Rather, you should learn the concept such that you can apply it to the understanding of similar problems. The exams will focus on current material and may include problems similar to those found in the text.

DO NOT GET BEHIND!!!! Work LOTS of problems…then work some more!!

The 3-dimensional structure of molecules will be of continual importance and model kits are highly recommended to help you to visualize. The recommended models are inexpensive and well suited to this class. Students planning to take Biochemistry may want to purchase the more expensive HGS model set that may be useful later on. *You are encouraged to bring models to all exams.* We will cover chapters 11-24 as scheduled in the outline. Refer to the solutions manual only after you have tried working the problem.

Assigned Homework Problems

Organic chemistry is a problem-solving course. The problems given within the text of each chapter are designed to test your understanding as you read. You should work these problems as you read (some of the answers to these questions are provided at the back of the textbook). The end-of-the-chapter problems are more comprehensive, and represent the kind of questions you will see on exams. Several questions from each chapter are recommended for your self-study. These problems will not be collected nor graded because the answers are available in the solutions manual that accompanies the textbook. It is extremely important that you **WORK THESE PROBLEMS** because this will be the best way for you to access your understanding of the material. You should get started on these problems **AS SOON AS POSSIBLE** so that you will have plenty of time to understand them. Yes, the answers are given in the study guide, but this false "short-cut" (copying answers) leads directly to failing grades. The procedure outlined below provides a proven method for developing your problem solving skills:

1. After reading the text and working all of the in-text problems find a quiet desk and attempt to solve the assigned problems in an **EXAM STYLE** situation, just you, your model set, and a pencil. Set a timer for 50 minutes and try working the problems. Do not look back in your book, talk to anyone else about it, or be within 25 ft of the solution manual. Not all problems have the same level of difficulty; so if you get stuck on one, move on to the next (just like you do on an exam to get the best score). Go back and work the problems you had difficulty with before, and see if you can now solve them. If you can't, you now know what to review in the next step.

2. **REVIEW** your class notes covering the material and the appropriate sections from the text, and use this information to try to solve the problems again. Don't get within 25 ft of the solutions manual or you will terminate the development of your problem solving abilities.

3. **DISCUSS** your work with other students from the class in **SMALL GROUPS OF 4-5 OR FEWER**. The formation of effective study groups is a great way to facilitate learning. Talk about the problems you have solved, and the ones you still haven't figured out. Visit the **PROFESSOR** during office hours, bring your notebook and show what you have tried to do. Visit the **TEACHING ASSISTANT** (if applicable) for further discussion.

4. The last stage in the process is to **CHECK YOUR ANSWERS** against those from the solutions manual / posted answers. Do you agree with the answers given and the way they were solved? By following this plan you will develop effective problem solving skills and build confidence in your abilities, so that you will be ready for exam day.

These problems correspond to the Wade textbook:

Chapter 11:	41, 42, 44, 47, 48, 49, 52, 53, 56, 63		
Chapter 12:	15, 16, 19, 20, 23, 25, 28	Chapter 20:	26, 28, 31, 32, 33, 35, 36, 39,
Chapter 13:	33, 34, 35, 38, 39, 40, 41 (1-2), 45	41, 50	
Chapter 14:	32, 33, 35, 38, 39, 41, 47	Chapter 21:	44, 45, 48, 49, 50, 57, 66
Chapter 15:	24, 25, 27, 28, 29, 30, 31, 33, 35	Chapter 22:	61, 62, 64, 65, 66, 67, 68, 70,
Chapter 16:	27, 28, 32, 33, 34, 38	71, 76, 77	
Chapter 17:	44, 45, 47, 49, 52, 54, 57, 61	Chapter 23:	54, 55, 59, 63, 77

Chapter 18:	39, 40, 46, 49, 50 (a, d, e), 51, 56, 57, 60, 66	Chapter 24:	32, 33, 34, 40, 41, 46, 47, 51
Chapter 19:	36, 37, 41, 44, 46, 49, 50, 59	Chapter 25:	14, 15, 16, 18, 20, 27, 31, 32

***I HIGHLY recommend working ALL of the chapter end problems! ***

Tentative Schedule

Exam 1:	Tuesday	July 14th	Chapters 11, 14, 15
Exam 2:	Wednesday	July 22nd	Chapters 16, 17, 18
Exam 3:	Thursday	July 30th	Chapters 19, 20, 21
Exam 4	Wednesday	August 5th	Chapters 22, 23, 24
Final Exam:	Thursday	August 6th	Cumulative (Chapters 11-24)

**** exams will be scheduled during the evenings, most likely between 6-9 pm. Make arrangements to be available during this time on exam days. You will download the exam from D2l, print the exam (or complete the exam on an electronic devise such as an iPad, scan the completed exam as a pdf file and upload the pdf file to D2l by the due time.**

	Monday	Tuesday	Wednesday	Thursday	Friday
July	6th Chapter 11	7th Finish Chap. 11 Chapter 14	8th Chapter 14	9th Chapter 15	10th Chapter 15
July	13th Chapter 16	14th Chapter 16 ***Exam 1*** ***Chapters 11, 14, 15***	15th Chapter 17	16th Chapter 17	17th Chapter 18
July	20th Chapter 18	21st Chapter 19	22nd Chapter 19 ***Exam 2*** ***Chapters 16, 17, 18***	23rd Chapter 19	24th Chapter 20
July-August	27th Chapter 20 *Last day to drop*	28th Chapter 21	29th Chapter 21	30th Chapter 22 **Exam 3** **Chapters 19, 20, 21**	31st Chapter 22
August	3rd Chapter 23	4th Chapter 23 Chapter 24	5th **Exam 4 Chapter 22, 23, 24**	6th ***Final Exam, Chapters 11-24***	9th

Interaction with Instructor Statement

The best way to communicate with the instructor is via e-mail: stephen.starnes@etamu.edu or stop by the instructor's office (Science 339) for clarification of course material and expectations.

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by East Texas A&M University have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:
https://community.brightspace.com/s/article/Brightspace-Platform-Requirements
LMS Browser Support:
https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm
Zoom Video Conferencing Tool
https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Account.aspx?source=universalmenu

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@etamu.edu.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a ETAMU campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your Instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

https://community.brightspace.com/support/s/contactsupport

STUDENT RESPONSIBILITIES FOR COURSE

CWID and Password
You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@etamu.edu.

Technology-Related Issues
Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a ETAMU campus open computer lab, etc.

TECHNOLOGY REQUIREMENTS AND SUPPORT

Minimal Technical Skills Needed

Students will need reliable computer and internet access for this course. Students must be able to effectively use myLeo email, myLeo Online D2L, and Microsoft Office.

Learning Management System (LMS) – D2L

All course sections offered by East Texas A&M University have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are the technical requirements:

- View the Learning Management System Requirements Webpage.
- Learn more on the LMS Browser Support Webpage.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found on the Brightspace Support Webpage.

COMMUNICATION AND SUPPORT

Interaction with Instructor Statement

If you have any questions or are having difficulties with the course material, please contact your instructor. Correspondence will always be through university email (your "myLeo" mail) and announcements in myLeo online (D2L). You will not RECEIVE email through D2L, so be sure to check your ETAMU email for communication. Students are encouraged to check university email daily.

Include the Following in Emails with Instructor:

- Course name and subject in the subject line
- Salutation (Good afternoon, Dr. Jackson)
- Proper email etiquette (no "text" emails – use proper grammar and punctuation)
- Student name and CWID after the body of the email (possibly add to student signature on email)

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail online in the Student Guidebook.

Students should also consult the Rules of Netiquette Webpage for more information regarding how to interact with students in an online forum.

ETAMU Attendance

For more information about the attendance policy, please view the Attendance Webpage and the Class Attendance Policy https://www.etamu.edu/attendance/
https://coursecatalog.tamuc.edu/undergrad/academic-procedures/#class_attendance_rule

Academic Integrity

Students at East Texas A&M University are expected to maintain high standards of integrity and honesty in all their scholastic work. For more details and the definition of academic dishonesty see the following procedures:
Undergraduate Academic Dishonesty University Procedure 13.99.99.R0.03
Undergraduate Student Academic Dishonesty Form
Graduate Student Academic Dishonesty University Procedure 13.99.99.R0.10
Graduate Student Academic Dishonesty Form

Use of Artificial Intelligence

East Texas A&M University acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources

Students with Disabilities-- ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

East Texas A&M University
Velma K. Waters Library Rm 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@etamu.edu
Website: Office of Student Disability Services

Nondiscrimination Notice

East Texas A&M University will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information, or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in East Texas A&M University buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and ETAMU Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all East Texas A&M University campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

East Texas A&M Supports Students' Mental Health – Counseling Services

The Counseling Center at East Texas A&M University, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.tamuc.edu/counsel

Mental Health and Well-Being

The university aims to provide students with essential knowledge and tools to understand and support mental health. As part of our commitment to your well-being, we offer access to Telus Health, a service available 24/7/365 via chat, phone, or webinar. Scan the QR code to download the app and explore the resources available to you for guidance and support whenever you need it.