

Draft I: CHEM 2323 Course Syllabus Spring 2024



Course CHEM 2323.001 and .002
Course Title Organic Chemistry 1
Professor Bruce M. Novak
Term Spring 2024
T/Th 10:00 AM – 11:15 AM (.001)
Meets in HH 2.402
T/Th 1:00 PM – 2:15 PM (.002)
Meets in FN 2.102

Professor's Contact Information

Office Phone 972-883-4070 (email communication is highly preferred)
Office Location BE 3.516
Email Address bruce.novak@utdallas.edu
Office Hours T/Th 2:30 – 3:30 PM in either BE 2.528 or BE 3.516 (by appointment.)
Other Information Course is rated R for language and graphic depictions of molecular violence

SI Leader: Aman Baig, aib190005@utdallas.edu

TA: Uma Nair, Uma.Nair@UTDallas.edu

Course Modality and Expectations

Instructional Mode	Live Lectures, HH 2.402 (10:00 AM) and FN 2.102 (1:00 PM). Attendance is mandatory.
Course Platform	eLearning Course Page. Periodic review sessions and Office Hours will be on BB Collaborate or Teams
Expectations	Extensive course material including topic descriptions, problem sets and their answer keys are available on eLearning. These must be downloaded and the problem sets worked for each chapter. Have plenty of paper and pencils ready. This class requires writing out the lecture notes. Completion of all homework assignments is mandatory.

General Course Information

Pre-requisites, Co-requisites, & other restrictions	CHEM 1312 General Chemistry II
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<p style="text-align: center;">Course Description</p>	<p>This course is designed to provide an overview of fundamental organic chemistry for science majors. Students who successfully complete this course will acquire an integrated understanding of molecular architecture, molecular transformations, reaction energetics and mechanisms, and synthetic strategy.</p> <p>Three exams will be given on the dates listed in the syllabus. All exams are 7:00 – 8:15 PM on Wednesday evenings (<i>vide infra</i>). Room assignments for each section will be made prior to the first exam.</p> <p>The final exam is cumulative and will be given during the week of May 6 -10, 2024. Further details to follow.</p> <p>Exams are strictly individual assessments. Students may use a periodic table (provided), molecular model kit and pen/pencil. If necessary, scratch paper will be provided. Unless I say otherwise, no other external aids such as notes, lectures, books or the internet will be permitted.</p> <p>Students often view organic chemistry as a difficult course but it's not, and in fact, it's a hell of a lot of fun. You need to keep up with the class as it proceeds and <i>you must practice drawing structures and reaction mechanisms during lecture and working out your homework problems</i>. Organic chemistry uses a hieroglyphic (pictorial) language to communicate and you must become, through practice, highly skilled at drawing to communicate fluently. Because of this, I do not use PowerPoints, and will be writing out the lectures, and job is to follow along, and write down what I am writing.</p> <p>This is not a course where you can 'cram' for an exam or skim over your notes. Students do better once they learn how to visualize organic molecules in 3D. To this end, a molecular model kit is recommended to assist in this visualization. Despite extensive rumors, organic chemistry is not a memorization course. While some memorization is necessary, the purpose of this course is to teach you the underlying principles that drive organic reactions. Once these principles are understood a student will be able to predict the outcome of fundamental organic reactions that they have not seen before.</p> <p>Before attending the lectures, everyone should, 1) read the chapter materials posted on eLearning, and 2) with this knowledge, try working through the homework problems posted on eLearning.</p> <p>Office Hours. Office Hours are generally run as group problem solving sessions in BE2.528. Even if you do not have specific questions, please come and listen to other students questions and subsequent answers. This will greatly help your understanding of course topics. In the absence of specific questions, I will just start making up questions for the attendees to do.</p>
<p style="text-align: center;">Learning Outcomes</p>	<p>Upon completing this class, students will:</p> <ul style="list-style-type: none"> • Be able to predict bonding and three-dimensional structure, including chirality, and to analyze properties of this 3-D structure of organic compounds. • Be able to compare reactivity amongst a series of organic compounds. • Be able to write out the mechanisms (the detailed, step-by-step process of converting starting materials to products) of organic reactions.

	<ul style="list-style-type: none"> • Be able to predict reactivity of specific functional groups and to construct simple and efficient routes for the preparation of desired organic compounds.
Recommended Text	L.G. Wade, Jr., "Organic Chemistry", ninth edition. Actually, editions 6-8 are fine. As I write my own materials, many students rarely use a book. Hence, if you purchase one, look for used or the older editions.
Recommended Materials	Molecular model kit and plenty of paper and sharp pencils.
PLTL Program	<p>Peer Led Team Learning (PLTL) is a program designed to provide an active learning experience in which students can gain the skills and confidence to be successful learners in Organic Chemistry and other historically difficult courses. In weekly ninety-minute PLTL sessions, small groups of students will work together to solve problems written by faculty members. An undergraduate PLTL leader who is trained in group facilitation and has the mastery of course content will lead them. This is an optional component to the course, however, if you choose to participate, you are expected to stay in the program throughout the semester. You can learn more about PLTL at the following link: https://www.utdallas.edu/studentsuccess/help-with-courses/peer-led-team-learning/. The tentative PLTL enrollment schedule is:</p> <ul style="list-style-type: none"> • Lottery: January 16 at 12PM • Early Access Registration: January 18 at 12PM • Open Registration: January 19 at 12PM • Most sessions begin: January 22 • CHEM 2325 PLTL Sessions Begin: January 26 • Registration closes: February 2 <p>If you would like to pre-register to be a part of priority registration, you can fill out the following form by Tuesday, January 19, 2021 @ 12PM CST: https://eforms.utdallas.edu/utd-pltl-lottery. Registration will be during the first week of classes. For more questions, you can email PLTL@utdallas.edu.</p>
SI Program	<p>Supplemental Instruction (SI) provides free, collaborative-group study sessions that follow the instruction of the course. SI sessions encourage active, collaborative learning based on critical thinking and transferable study skills. Sessions will directly reflect the content covered during the class sessions. This fall, SI sessions will be held via Blackboard Collaborate. Students will be enrolled in their SI Shell on eLearning during the first week of school. They will find access to the SI services under the My Organizations section on eLearning. Each course will have a shell and will be labeled based on the course name, i.e., "SI – CHEM 2323."</p>

Lec	Date	Topic	Chapter	Test
1	1/16	Introduction and Review of Chemical Principles	1	No
2	1/18	Introduction and Review of Chemical Principles	1	No
3	1/23	Molecular Structure, Orbital Hybridization and Bonding	2	No
4	1/25	Molecular Structure, Orbital Hybridization and Bonding	2	No
5	1/30	Functional Groups	2	No
	1/31	Test 1: Wednesday evening, 7:00 – 8: 15 PM		YES
		Rooms tbd		

6	2/1	Alkanes: Saturated Hydrocarbons	3	No
7	2/6	Alkanes, Cycloalkanes and Cyclic Conformations	3	No
8	2/8	Alkanes, Cycloalkanes and Cyclic Conformations	3	No
9	2/13	Stereochemistry	5	No
10	2/15	Stereochemistry	5	No
11	2/20	Stereochemistry	5	No
12	2/22	Chemical Reactions, Free Radical Halogenations	4	No
13	2/27	Chemical Reactions	4	No
	2/28	Test 2: Wednesday evening, 7:00 – 8:15 PM		YES
		Rooms tbd		
14	2/29	Alkylhalides, Nucleophilic Substitutions (S_N2)	6.1-6.12	No
15	3/5	Nucleophilic Substitutions (S_N2)	6.1-6.12	No
16	3/7	Substitutions and Eliminations (S_N1 , E1 and E2)	6.13-6.21	No
		Study Week, March 11 - 17, 2024		
17	3/19	Substitutions and Eliminations (S_N1 , E1 and E2)	6.13-6.21	No
18	3/21	Alkenes	7, 8	No
19	3/26	Alkenes	7, 8	No
20	3/28	Alkenes	7, 8	No
21	4/2	Alkenes	7, 8	No
	4/3	Test 3: Wednesday evening, 7:00 – 8:15 PM		YES
		Rooms tbd		
22	4/4	Alkenes	7, 8	No
23	4/9	Alkenes	7, 8	No
24	4/11	Alkenes	7, 8	No
25	4/16	Alkynes	9	No
26	4/18	Alkynes	9	No
27	4/23	Alkynes	9	No
28	4/25	Alcohols	10	No
29	4/30	Alcohols	10	No
30	5/2	Alcohols (last day of classes)	10	No
		Final Exam Week May 6 – May 10		YES
		Rooms tbd		

Course Policies

Grading (credit) Criteria	Grades will be determined from a combination of the three tests, and the final exam scores. The lowest test grade will be substituted by the final exam score, except in cases where an exam score has been zeroed due to academic dishonesty.			
	Tests	3 x 100	300 points	
	Final Exam	1 x 100	100 points	
	Total		400 points	
	90.0 – 100 = A+	70.0 – 75.9 = B+	55.0 – 59.9 = C+	40.0 – 44.9 = D+
	80.0 – 89.9 = A	65.0 – 69.9 = B	50.0 – 54.9 = C	35.0 – 39.9 = D
	76.0 – 79.9 = A-	60.0 – 64.9 = B-	45.0 – 49.9 = C-	<35.0 = F
	<i>This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:</i> <i>“As a Comet, I pledge honesty, integrity, and service in all that I do.”</i>			
Make-up Exams	There are NO makeup exams except for University excused absences. Missing an exam will be made up by substituting the final exam score for the missing score.			
Academic Support Resources	<i>The information contained in the following link lists the University’s academic support resources for all students.</i> <i>Please go to http://go.utdallas.edu/academic-support-resources.</i>			
UT Dallas Syllabus Policies and Procedures	<i>The information contained in the following link constitutes the University’s policies and procedures segment of the course syllabus.</i> <i>Please go to http://go.utdallas.edu/syllabus-policies for these policies.</i>			

Class Participation and Attendance

Regular class participation is expected, and attendance is mandatory. Students who fail to make lectures regularly are inviting scholastic difficulty and their course grades will be docked: Missing three sections will lower your grade by one level (included are +/- levels, e.g., B- to C+). Participation also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures. There will be mandatory recorded review sessions that all students are required to attend live or view the recording. Class participation is documented by faculty. Successful participation is defined as consistently adhering to University requirements, as presented in this syllabus. Failure to comply with these University requirements violates the [Student Code of Conduct](#).

Class Recordings

Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

Course lectures will not be recorded although online review sessions will be. These recordings will be available to all students registered for this class. Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of

Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

Comet Creed

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UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University’s policies and procedures segment of the course syllabus.

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The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.