Syllabus
"Lectures in Organic Chemistry" (2nd Semester)
Chemistry 241b, Spring 2024

We respectfully acknowledge the University of Arizona is on the land and territories of Indigenous peoples. Today, Arizona is home to 22 federally recognized tribes, with Tucson being home to the O'odham and the Yaqui. Committed to diversity and inclusion, the University strives to build sustainable relationships with sovereign Native Nations and Indigenous communities through education offerings, partnerships, and community service.

Course Description

This course teaches the fundamentals of organic chemistry, with a focus on organic structures, properties, transformations (organic synthesis), and the mechanisms of those transformations (organic reaction mechanisms).

Course Prerequisites: CHEM 241a,152, 142, 162, or 105B.

Instructor and Contact Information

Instructor:	Dr. Lisa Dollinger (she/her)
Office:	Koffler 335
Phone:	(520) 621-2089
email:	ldolling@arizona.edu
Class meetings:	This is a completely asynchronous online class

Help Hours:

Instructor:
T 11 AM-1PM and Th 11 AM
Koffler 335 (in-person), and
https://arizona.zoom.us/j/84890509815 (zoom)

…or by appointment

Organic Teaching Team Help Hours/Problem Solving Sessions:

- **Organic Café** (M, T, W 4 PM in CHEM 218)
- List of individual preceptor office hours (both in person and zoom) can be found under Teaching Team Contact and Office Hours module on course D2L page.

Course Objectives

This second semester course covers the chemistry from the source textbook from chapters 13-26.

Expected Learning Outcomes

Overarching Learning Outcomes for the entire 241 sequence:

Having completed Chemistry 241A and Chemistry 241B, students will be able to discuss, both orally and in writing:

- The structure and bonding of organic compounds and the relationship of structure and bonding to physical and chemical properties.
- Reactions that transform one organic compound into another.
- The detailed mechanisms whereby organic reactions occur.

Technology Requirements

To participate in this course, you will need

- a desktop or laptop **computer** with the Chrome browser installed
- a broadband wired or wireless (3G, 4G/LTE, or 5G) **internet** connection
- a web camera
- access to Desire2Learn (**D2L**)

If you have technology issues that may impede your participation in this course, please contact me no later than the first week of class. Assistance with technology resources on campus can be found at https://student.it.arizona.edu/resources.

Textbook/Homework/Assessment Package (required!)

- Smith *Organic Chemistry* 6e 2020 – Connect McGraw Hill
- Accompanying Student Solutions Manual for Smith 6e via ebook (link will be made available upon start date in D2L)
- This course will use Proctorio, a browser-locking and remote proctoring solution designed to protect the integrity of this course's assessments, within your Connect quizzes). **NOTE: Proctorio will create a recording of video, audio, and screen activity while you are completing assessments, so a web camera is required.**

The textbook and homework/assessment package (i.e., Connect) will come packaged as a bundle via Inclusive Access (IA) through D2L. Ensuing IA instructions will be emailed to you by the bookstore, as well as specific pricing information. Access to digital course materials is **required** and will be available on the first day of class or within 24 hours of registering if adding the class.

Access to the digital course materials is **required** to participate in the class. They will be available on the first day of class or within 24 hours of registering if adding class after the first day of class through IA.

If you do not wish to purchase the course materials through the IA program (note: IA is the *least* expensive way to access the digital material), you have until the add/drop day to **opt-out**. To avoid being billed you **must** opt-out online before the deadline: go to *d2l.arizona.edu*, login with your NetID, select > My D2L Tools and proceed to "Inclusive Access Opt Out." *If you drop the course by the add-drop date you will have your access turned off, be automatically opted-out, and will not be billed.*

Not Required–For those of you wishing to have a hard copy of the book, upon purchase of your Connect subscription (after the add drop date has passed), you are able to purchase a discounted loose-leaf version of the textbook (in full color) from within your Connect course. Cost is $39 (including shipping and handling). For support on purchasing your loose-leaf option, you will contact the Connect helpdesk.

Review the FAQs at Bookstore Website for more information. Please feel free to reach out if you have any questions or concerns to the UA BookStores Inclusive Access Team at uabks-inclusiveaccess@email.arizona.edu

Molecular Models Recommended
As organic molecules are three-dimensional objects, many students find working with a set of organic molecular models helpful and instructive. There are many organic molecular model kits available at student bookstores and on the web. Most model sets are adequate, but I like the one by Darling Models, Inc. It is possible to split one of these model kits between 2 students and still have enough for the course. **You will be allowed to use the models on quizzes and exams.**

Course Format and Teaching Methods
This course will be taught using completely asynchronous online instruction. Each student is unique and is responsible for their own learning process and outcome. The material to be learned is contained in the source textbook, **"Organic Chemistry", 6th edition, by Janice Gorzynski Smith**. Both traditional printed and electronic versions of the textbook and solutions manual are available (vide supra).

We will be using a class **GroupMe** for class discussion/questions:
https://groupme.com/join_group/98417631/TImHZnTX

The GroupMe is the best way for you to get help fast and efficiently from classmates, the teaching team, and myself. Rather than emailing questions, I encourage you to post your questions on the GroupMe.

Learning organic chemistry begins with drawing structures and mechanisms and you will miss out on the very first steps of learning the material if you do not take notes. You will be watching video lectures available for viewing through D2L in each unit section. These videos are recorded asynchronous lectures that cover the material in the textbook. As you watch the videos it is recommended that you **take notes**. You can do this in any manner that suites your learning best, however, a basic set of lecture slides are provided for each video to either print or download to a tablet where you can add in details to begin learning of how to write organic structures. Also, as you read the text and view the lectures, write down questions you wish to ask during office hours or on the GroupMe. The lectures largely follow the source textbook, and they often make more

sense if you familiarize yourself with the material beforehand, so students may prefer to read the text before and/or after viewing lecture videos.

As with many other math and science courses, working problems is the only way to master organic chemistry. Homework is the best way to work problems to help master the material. Homework assignments will be assigned in the Connect online homework environment that accompanies the electronic version of the source textbook and linked through D2L in each Unit section. These required homework assignments will make up a significant part of your course grade and you have unlimited attempts to get them correct, so you should make every effort to complete them by the due dates published on D2L and Connect. There are addition problems for you to work from the textbook (a list of particularly relevant problems is listed in the Unit modules) and in the Unit's Additional Materials modules. In addition to extra problems, video learning objectives, relevant tables and helpful guides can be found in the Unit's Additional Materials modules.

Keep in mind that those who put in the most effort are generally the most successful.

For those of you who are on or near campus, there will be three Teaching Team led, in-person problem solving sessions, known as ***Organic Café*** (M, T, W 4:00-5:00PM in Chem 218). There, students can work on Unit Problem Sets, End of Chapter Problems, or any questions you may have regardless of the unit (you are never too far behind to attend Café and get help).

Regardless of class modality, the goal is the same—student learning. Learning a difficult subject like organic chemistry requires commitment, effort, and follow-through. *You are strongly encouraged to view all lectures and to set notifications in your D2L and to work on this course each and every day!*

The material to be learned is laid out in the source text and the associated video lectures, which is reinforced by the online homework found in the Homework Assignments module on the D2L web page for this course. Due dates are intended to keep students progressing at a rate that will allow for you to keep up with the material as it is being presented. ***It is very easy to get behind; don't let that happen to you!*** Make a commitment from the start of the semester to keep up with lectures and to never be late with an assignment. Put in the effort required to do your very best work on every assignment. Follow through by maintaining your high level of effort throughout the term.

Academic advising: If you have questions about your academic progress this term, or your chosen degree program, please note that advisors at the Advising Resource Center can guide you toward university resources to help you succeed.

Life challenges: If you are experiencing unexpected barriers to your success in your courses, please note the Dean of Students Office is a central support resource for all students and may be helpful. The Dean of Students Office can be reached at 520-621-2057 or DOS-deanofstudents@email.arizona.edu.

Physical and mental-health challenges: If you are facing physical or mental health challenges this semester, please note that Campus Health provides quality medical and mental health care. For medical appointments, call (520-621-9202. For After Hours care, call (520) 570-7898. For the Counseling & Psych Services (CAPS) 24/7 hotline, call (520) 621-3334.

The UA's policy concerning Class Attendance and Participation is available at: https://catalog.arizona.edu/policy/class-attendance-and-participation. The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable. Please see: http://policy.arizona.edu/human-resources/religious-accommodation-policy**.**

Absences pre-approved by the UA Dean of Students (or Dean Designee) will be honored. Please see: https://deanofstudents.arizona.edu/policies/attendance-policies-and-practices. *To request a disability-related accommodation to this attendance policy, please contact the Disability Resource Center at (520) 621-3268 or drc-info@email.arizona.edu.* If you are experiencing unexpected barriers to your success in your courses, the Dean of Students Office is a central support resource for all students and may be helpful. The Dean of Students Office is located in the Robert L. Nugent Building, room 100, or call 520-621-7057.

Assessment Components (Video Lectures, Homework, Quizzes, and Examinations–Schedule/Due Dates)

Lecture Videos (25 points): Since this class is in an online format, students are provided with lecture video content (see class schedule at the end of the syllabus for exact due dates for video viewing). Each video is worth 0.54 points. and must be viewed BEFORE MIDNIGHT Arizona time the due date. To receive points, you must complete the quiz embedded within the video. Watching and completing these videos will make up 5% of your grade. There are 51 videos, and each is worth 0.*54* points, four video grades will be dropped. Hence, about 25 points of your final grade will come from completing 47 of the lecture videos before

Once the due date/time has passed you still will be able to view the video in the D2L module "Lecture Videos for reference (not graded!!!)," but will <u>not</u> receive credit for doing so*.* If you get a message that says to **Click to Sign In and Play Video,** click that button and it should prompt you to log into UA with your net ID and password. To watch the video, **click the small arrow at the bottom right of the video**. This will allow you to watch it directly in Panopto.

Homework (75 points): Working problems is the only way to master organic chemistry. Online homework using the Connect software will be due about once a week **(see exact dates on class schedule)**. Each homework assignment is worth 6.82 points, 75 points of your class grade. The due dates for the Connect homework assignments appear on D2L in the Unit modules as well as the course calendar, on the Connect web page for this course, and in the calendar below. These required homework assignments will make up 15% of your course grade and **you have unlimited attempts to get them correct,** so you should make every effort to complete them by the due dates published on D2L and Connect.

Assignment	**Topic**	**Date**
Homework 1 on…	Chapter 13	Saturday 1/20
Homework 2 on…	Chapter 14	Saturday 1/27
Homework 3 on…	Chapter 15	Saturday 2/3
Homework 4 on…	Chapter 16	**Tuesday** 2/13
Homework 5 on…	Chapter 17	Saturday 2/24
Homework 6 on…	Chapter 18	**Wednesday** 3/13
Homework 7 on…	Chapter 19	**Tuesday** 3/19
Homework 8 on…	Chapter 20	Saturday 3/30
Homework 9 on…	Chapter 21	Saturday 4/6
Homework 10 on…	Chapter 22	Saturday 4/20
Homework 11 on…	Chapter 26	**Wednesday** 5/1

Additional suggested problems (not for credit but recommended to master the material) can be found in the Unit Modules under the Unit Materials tab, including a list of suggested problems from the Smith text book (solutions to the problems can found in the solutions

manual) as well as a Unit Problem Set/Answer Key. Also included under the Unit Materials tab reaction list for each chapter, detailed learning objectives for each video, and other useful charts and study guides.

Quizzes (100 points) The quiz content will focus primarily on the current learned *before* the quiz date (see quiz dates below for exact content). Nevertheless, the material builds, layer upon layer, and so is cumulative by its very nature.

There are eight quizzes, and each is worth 20 points. Your lowest **three** quiz scores will be dropped. Hence,100 points of your final grade will come from your highest five (5) quiz scores. If you miss a quiz, you will receive a zero for that quiz, since the lowest two quizzes are dropped, they will count as your dropped scores. If you do need to miss a quiz, an early quiz will be allowed if you **contact me at least 2 days BEFORE the date of the quiz and have a Dean's excuse.**

Quiz Dates

Proctorio Quiz, Friday 1/19 **Can Not Be Dropped**
Quiz 1 (Chapter 13), Tuesday 1/23
Quiz 2 (Chapter 14), Tuesday 1/30
Quiz 3 (Chapter 15), Tuesday 2/6
Quiz 4 (Chapter 17), Tuesday 2/27
Quiz 5 (Chapter 18), **Thursday** 3/14
Quiz 6 (Chapter 20), Tuesday 4/2
Quiz 7 (Chapter 21), Tuesday 4/9
Quiz 8 (Chapter 22), Tuesday 4/23

Proctorio MUST be installed on your computer *BEFORE* Quiz 1, on 1/23/2024.

You can load Proctorio by taking the **Proctorio Quiz** (5 points, extra credit) ***before*** 1/19. It will be open on the first day of class and can be found in the Quiz Module.

You can take it any time for credit between 1/8/24-1/19/24.

Once you click on the quiz, you will need to install Proctorio on your computer. It also requires you to watch some orientation videos to familiarize yourself with the system and details all the technical requirements as well as how to get help if you are having issues during quizzes/exams **You will be unable to take the Quizzes/Exams for credit if you don't have Proctorio and a web camera.**

Examinations (200 points): Each exam will be worth 100 points. Your lowest one (1) exam score will be dropped. Hence, 200 points of your final grade will come from your two highest exam scores.

Each exam will focus on the material covered since the previous exam. Nevertheless, the material builds, layer upon layer, and so is cumulative by its very nature. Knowledge and understanding of the principles, reactions, and mechanisms presented in earlier chapters is a prerequisite for success in later chapters and on subsequent examinations. To do well throughout this term, you must keep up, master the material, and remember it throughout your study of organic chemistry.

Assessment	**Topic**	**Date**
Exam 1 on…	Ch.13-16	Thursday, 2/15
Exam 2 on…	Ch. 17-19	Tuesday, 3/21
Exam 3 on…	Ch. 20-22 + 26*	Thursday, 4/25

*Exam 3 will focus on material from Chapters 20-22 and 26 (up to and including videos 1-2)

All Quizzes/Exams are open from 12:00 am – 11:59 pm (AZ time) on the day indicated in the class schedule (see last page).

- Calculators, cell phones, and other electronic devices are **prohibited** during quizzes and examinations.
- Organic molecular model sets, 241a reaction list (found both in the Quizzes and Exams modules), a periodic table, paper, and pencil will be allowed.
- If you miss a quiz or exam, you will receive a zero for that assessment. Makeup exams will be allowed with a Dean's excuse.

***Final Exam (100 points)*:** The Final Exam (Chapters 13-26) will be worth 100 points and may not be dropped.

It will be open on Connect from 12am-11:59PM **on Tuesday, May 7**

Grading Scale and Policies
University policy regarding grades and grading systems is available at http://catalog.arizona.edu/policy/grades-and-grading-system

Total points for the course will be determined as shown in the following table.

ASSIGNMENT	POINTS	Percentage	
Videos	25	5	5 Will Be Dropped
Homework	75	15	Cannot Be Dropped
Quizzes	100	20	Lowest 3 Will Be Dropped
Exams	200	40	Lowest 1 Will Be Dropped
Final Exam	100	20	Cannot Be Dropped
TOTAL POINTS	**500**		

Final grades will be assigned based on the breakdown shown in the following table.

GRADE	Total Points	Percentage
A	440-500	88.0
B	380-	76.0
C	300-	60.0
D	225-	45.00

Requests for incomplete (I) or withdrawal (W) must be made in accordance with University policies, which are available at http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete and http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal respectively.

Dispute of Grade Policy
Inquiries concerning the grading of a particular examination must be submitted before the date of the next examination.

Classroom Behavior Policy
To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities. Students observed engaging in disruptive activity will be asked to cease this behavior. Those who continue to disrupt the class will be reported to the Dean of Students

Threatening Behavior Policy
The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to oneself. See http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students.

Accessibility and Accommodations
At the University of Arizona we strive to make learning experiences as accessible as possible. If you anticipate or experience barriers based on disability or pregnancy, please contact the Disability Resource Center (520-621-3268, https://drc.arizona.edu/) to establish reasonable accommodations.

Code of Academic Integrity
Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercises must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity as described in the UA General Catalog. See: http://deanofstudents.arizona.edu/academic-integrity/students/academic-integrity. The University Libraries have some excellent tips for avoiding plagiarism, available at http://new.library.arizona.edu/research/citing/plagiarism.
Selling class notes and/or other course materials to other students or to a third party for resale is not permitted without the instructor's express written consent. Violations to this and other course rules are subject to the Code of Academic Integrity and may result in course sanctions. Additionally, students who use D2L or UA e-mail to sell or buy these copyrighted materials are subject to Code of Conduct Violations for misuse of student email addresses. This conduct may also constitute copyright infringement.

UA Nondiscrimination and Anti-harassment Policy
The University is committed to creating and maintaining an environment free of discrimination; see http://policy.arizona.edu/human-resources/nondiscrimination-andanti-harassment-policy
Our classroom is a place where everyone is encouraged to express well-formed opinions and their reasons for those opinions. We also want to create a tolerant and open environment where such opinions can be expressed without resorting to bullying or discrimination of others.

Additional Resources for Students (recommended links)
UA Academic policies and procedures are available at http://catalog.arizona.edu/policies
Student Assistance and Advocacy information is available at http://deanofstudents.arizona.edu/student-assistance/students/student-assistance

Confidentiality of Student Records
For details, please see: http://www.registrar.arizona.edu/personal-information/familyeducational-rights-and-privacy-act-1974-ferpa?topic=ferpa

Subject to Change Statement: Information contained in the course syllabus, other than the grading and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.

CLASS SCHEDULE:

	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Wk 1	JAN 8	JAN 9	JAN 10	JAN 11	JAN 12	JAN 13	JAN 14
Wk 2 Ch 13	JAN 15 MLK Day	JAN 16 13 (p1-2)	JAN 17	JAN 18 13 (p3-4)	JAN 19	JAN 20 HW 1(13)	JAN 21
Wk 3 Ch 14	JAN 22	JAN 23 14 (p1-2) – Q1	JAN 24	JAN 25 14 (p3)	JAN 26	JAN 27 HW 2(14)	JAN 28
Wk 4 Ch 15	JAN 29	JAN 30 15(p1-3) – Q2	JAN 31	FEB 1 15(p 4)	FEB 2	FEB 3 HW 3(15)	FEB 4
Wk 5 Ch 16	FEB 5	FEB 6 16(p1-2) – Q3	FEB 7	FEB 8 16(p3-4)	FEB 9	FEB 10	FEB 11
Wk 6 Ch16/17	FEB 12	FEB 13 HW 4(16)	FEB 14	FEB 15 EX 1 (13-16)	FEB 16	FEB 17	FEB 18
Wk 7 Ch 17	FEB 19	FEB 20 17(p1-4)	FEB 21	FEB 22 17(p5)	FEB 23	FEB 24 HW 5(17)	FEB 25
Wk 8 Ch 18	FEB 26	FEB 27 18(p1-3a) – Q4	FEB 28	FEB 29 18(3b)	MAR 1	MAR 2	MAR 3
Wk 9 Spring Break	MAR 4	MAR 5	MAR 6	MAR 7	MAR 8	MAR 9	MAR 10
Wk10 Ch18/19	MAR 11	MAR 12 18(4-5)	MAR 13 HW 6(18)	MAR 14 19(1-4) – Q5	MAR 15	MAR 16	MAR 17
Wk11 Ch 20	Mar 18	Mar 19 20(1-2) HW 7(19)	Mar 20	Mar 21 EX 2(17-19)	Mar 22	Mar 23	Mar 24
Wk12 Ch 20-21	Mar 25	Mar 26 20(3-5)	Mar 27	Mar 28 21(1)	Mar 29	Mar 30 HW 8(20)	Mar 31
Wk13 Ch 21-22	Apr 1	Apr 2 21(2-4) – Q6	Apr 3	Apr 4 21(5)	Apr 5	Apr 6 HW 9(21)	Apr 7
Wk14 Ch 22	Apr 8	Apr 9 Ch22(1-3) – Q7	Apr 10	Apr 11 Ch22(4)	Apr 12	Apr 13	Apr 14
Wk15 Ch 22/26	Apr 15	Apr 16 Ch22(5-6)	Apr 17	Apr 18	Apr 19	Apr 20 HW 10(22)	Apr 21
Wk16 Ch 26	Apr 22	Apr 23 26(1-2) – Q8	Apr 24	Apr 25 EX 3 (20-22, 26)	Apr 26	Apr 27	Apr 28
Wk17	Apr 29	Apr 30 26(3-5)	May 1 HW 11(26)	May 2 Reading Day	May 3	May 4	May 5