

Topics in Organic Chemistry – Organic Spectroscopy – 2756
CHEM 3703 Section 1
Spring Quarter, 2021



Instructor: Associate Professor Brian W. Michel

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Lecture: MWF 10:00 – 10:50 am

Office Hours: By appointment, stop by

Required Text: *Introduction to Spectroscopy* by Pavia, Lampman, Kriz, and Vyvyan

Course Objective: In this course we will learn about important techniques in organic spectroscopy including the basis of different spectroscopies and the interpretation of spectra. We will do our best to make this a very interactive class, with lots of discussions and problem solving.

Problem Sets: 4 x 50 points each = 200 points

Exams: There will be three exams worth 100 points each = 300 points).

Final Grade: Your final grade will be determined out of the 500 available points on exams and problem sets. Additionally, everyone in the class is expected to participate in board sessions, failure to participate could negatively influence your grade. **There will be no makeup exams. If you miss an exam for any reason, that exam will be dropped and the final will count for 200 points. The final exam is not optional.**

Cell Phone and Electronic Device Policy:

While I understand that mobile devices have become integral to our lives, they are disruptive to the learning environment. Therefore, I request that all electronic devices be turned off (not muted) during class (i.e.; please don't text/facebook during class). If an emergency arises, and you need to contact the outside world during our lecture or recitation time, I request that you quietly leave the room and conduct your conversation outside. Additionally, most all of our lectures will require far too much structural drawing for effective notes to be taken on a laptop so please leave these devices off during lecture.

Lecture and Testing Accommodations:

I will make every effort to accommodate students diagnosed with a learning disability. I will do this in complete confidence. I do, however, request that any student requiring these accommodations inform me the first week of class. For further information, please see the University Disability Services' website at <http://www.du.edu/disability/dsp/index.html>.

Academic Integrity:

While I advocate collaborative learning and teamwork, I also firmly believe that each individual should maintain the highest ethical standards. As such, I support and will strictly enforce the Honor Code of the University of Denver. www.du.edu/honorcode.

Honor Code Statement.

All members of the University of Denver are expected to uphold the values of *Integrity*, *Respect*, and *Responsibility*. These values embody the standards of conduct for students, staff, faculty, and administrators as members of the University community. These values are defined as:

Integrity: acting in an honest and ethical manner;

Respect: honoring differences in people, ideas, and opinions;

Responsibility: accepting ownership for one's own conduct.

Pioneer Pledge.

As a University of Denver Pioneer I pledge...

- to act with INTEGRITY and pursue academic excellence;
 - to RESPECT differences in people, ideas, and opinions and;
 - to accept my RESPONSIBILITY as a local and global citizen;
- Because I take pride in the University of Denver I will uphold the *Honor Code* and encourage others to follow my example.

Topics to be covered: Preliminary Course Schedule – Subject to Change

Date	Topic	Reading/Notes
3/31/21	Intro to Spectroscopy and Molecular Formulas	Chapter 1
4/2/21	Infrared Spectroscopy	2.0-2.9
4/5/21	Infrared Spectroscopy	2.10-2.14
4/7/21	Infrared Spectroscopy	2.15-2.23
4/9/21	Mass Spectrometry Basics	3.0-3.6
4/12/21	Mass Spectrometry	3.7-4.3
4/14/21	Mass Spectrometry	4.4-4.12
4/16/21	Mass Spectrometry	
4/19/21	Catch up/Review	
4/21/21	Midterm Exam 1	
4/23/21	Exam Review/Intro to NMR	5.0-5.6
4/26/21	Basics of ^1H NMR	5.6-5.13
4/28/21	Basics of ^1H NMR	5.14-5.20
4/30/21	Basics of ^{13}C NMR	6.0-6.8
5/3/21	Basics of ^{13}C NMR	6.9-6.17
5/5/21	Advanced ^1H NMR topics	7.0-7.3
5/7/21	Advanced ^1H NMR topics	7.4-7.6
5/10/21	Advanced ^1H NMR topics	7.7-7.13
5/12/21	Advanced ^1H NMR topics	8.0-8.6
5/14/21	Advanced ^1H NMR topics	8.6-8.12
5/17/21	Catch up/Review	
5/19/21	Midterm Exam 2	
5/21/21	Exam Review/Advanced NMR Techniques	9.0-9.3
5/24/21	Advanced NMR Techniques	9.4-9.7
5/26/21	Advanced NMR Techniques	9.8-9.12
5/28/21	Advanced NMR Techniques	
5/31/21	Memorial Day – No Class	
6/2/21	Catch up/Review	
6/4/21	Catch up/Review	
6/7/19	Final Examination	6/7/19

Canvas and Class Notes:

Slides from class and homework assignments will be posted on Canvas.