

Chemistry 3211 Organic Spectroscopy Spring 2007

Class: MW 1:00 - 1:50 PM Laney Hall 103
Instructor: Dr. Jerry Manion
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Telephone: 450-5944
email: JerryM@uca.edu
Office hours: Daily 9:30 – 11:00 AM

Appointments are also available – JerryM@uca.edu
You can email me questions - please put "chem3211" in the subject line.
Required Text: "Introduction to Spectroscopy, 3rd Edition". Pavia, Lampman and Kriz

Course Description: Our goal in this course is to develop skill in determining the structures of organic compounds from spectral information. This will require you to learn about each type of spectroscopy, but of equal importance it will require you to practice the type of reasoning by which information from divergent sources is reconciled to reach a logical conclusion. For you to improve, it is absolutely essential that you work all of the problems assigned. We will move fairly rapidly through each type of spectroscopy and then will gain a better understanding of them as we solve problems using a combination of information from all. Much of the problem solving will be "open-book" to reduce the memorization required for the course. However, a certain amount of information is essential for efficient interpretation of spectral data in terms of molecular structural characteristics. You will learn basic operation of the FT-IR and NMR spectrometers.

Attendance: You are expected to attend every class. Students missing 4 or more classes, or missing 2 or more homework assignments, may be given a grade of WF.

Important Dates:

03/23 Last day to drop a course with a W
04/20 Last day to withdraw with a WP or WF

Americans with Disabilities Act (ADA): The University of Central Arkansas adheres to the requirements of the Americans with Disabilities Act. If you need an accommodation under this Act due to a disability, contact the UCA Office of Disability Services at 450-3135.

Academic Dishonesty: The University will severely punish those who commit an act of academic dishonesty. Punishment may include failure of the course and/or expulsion from the university.

UCA Policies: You are encouraged to familiarize yourself with the content of the UCA Student Handbook. In particular, the academic policies and the sexual harassment policy may be useful.

TENTATIVE SCHEDULE

	Jan 12 - Chapter 1
Jan 15 – Martin Luther King Day	Jan 17 - Chapter 8
Jan 22 - Chapter 8	Jan 24 - Chapter 8
Jan 29 - Chapter 8	Jan 31 - TEST # 1
Feb 5 - Chapter 2	Feb 7 - Chapter 2
Feb 12 - Chapter 2	Feb 14 - Chapter 3
Feb 19 - Chapter 3	Feb 21 – Chapter 3
Feb 26 - Chapter 3	Feb 28 - TEST # 2
March 5 - Chapter 4	March 7 - Chapter 4
March 12 - Chapter 4	March 14 - Chapter 4
March 19 - Chapter 5	March 21 – Chapter 5
March 26 – 30 Spring Break	
April 2 - Chapter 6	April 4 – Chapter 6
April 9 - Chapter - TEST # 3	April 11 - Chapter 9
April 16 - Chapter 9	April 18 - Chapter 9
April 23 – Chapter 10	April 25 – Chapter 10
Final Exam – 11:00 AM – 1:00 PM on	Monday, April 30

GRADING

3 Tests:	100 points each	300 Points
1 Final Exam	200 points	200 Points
Homework	150 points	150 Points
Lab Work	150 points	150 Points

TOTAL

800 Points

The homework assignments will be give through the course of the semester

720 - 800	points (>90%)	A
640 - 719	points (80-90%)	B
560 - 639	points (70 - 80 %)	C
480 - 559	points (60 -70 %)	D

Lab Work

Assignment 1

Analysis of unknown # 1. You will be provided a sample together with its elemental analysis and its mass spectrum. You will propose a short list of reasonable structures for your unknown, and after I approve your list, you will obtain an IR spectrum. You will fully analyze all of the data and propose a structure. You will work with a partner.

Assignment 2

Analysis of an unknown, # 2. You will be provided a sample together with its elemental analysis and mass spectrum. You will obtain the following spectra for use in determining the structure: IR, ^1H NMR, ^{13}C NMR, and DEPT 135. You will work with a partner.

Assignment 3

Analysis of an unknown, # 3. You will be provided a sample together with its elemental analysis and mass spectrum (if available). You will obtain a ^1H and ^{13}C NMR spectrum, a DEPT 135, a COSY, and an HMQC spectrum, and any other spectrum you may want. You will deduce the structure for the spectrum. You will work with a partner.