Chemistry 5714, Spectroscopy Course Syllabus, Fall 2010

Course Description

Chemistry 5714 Spectroscopy Course Part 1: Selected Methods in Organic & Inorganic Spectroscopy (4 credits).

Approximate list of topics will be covered:
• Mass spectrometry
• UV-Vis-NIR spectroscopy
• Applications of IR and RR spectroscopy
• Introduction to CD and MCD spectroscopy

Instructor

Victor Nemykin, 329 Chemistry, 726-6729, vnemykin@d.umn.edu
Office Hours: 4-5 pm MWF and by appointment.

General Course Information and Meeting Times

Study assignments and announcements will be made available at the website
http://www.d.umn.edu/~vnemykin
Lectures 12:30 P.M. - 01:50 P.M. W, F (09/07/2009 - 12/15/2009) , Wednesday: DAdB 16A; Friday: SCC21

Recommended text and materials

1. "Physical methods in bioinorganic chemistry spectroscopy and magnetism", edited by Lawrence Que, University Science Books, 2000.
2. "Introduction to spectroscopy" by Donald L. Pavia, Gary M. Lampman, and George S. Kriz; 3rd ed, Brooks/Cole, 2001.
3. Access to the internet. General course information will be posted on the internet. You can access this information using the computers on campus, or use your own computer with an internet connection and a web browser.

Course Requirements

Minimum requirements for successful completion of this course include satisfactory completion of all possible examinations, problem sets, and practical component. The lectures and textbook are your primary sources of information. Attendance at all lectures and discussion meetings is expected, and is required insofar as the quizzes and other in-class work at those sessions count toward your grade in the course.

Grading

There will be one exam, several problem sets, spectroscopy related presentation, and practical component related problem (see below). Make up exams given in cases of illness; please contact me in advance. Your grade in the course will be determined by your performance on exam, problem sets, spectroscopy related presentation, and practical component related problem. Attention to proper sentence construction and clear presentation of work are expected. The following **approximate** weight distribution will be used to determine course grades. Students need to receive a passing grade in this part of the class.

Exam: 100 pts
Two problem sets: 2x50 pts
Total for 5714 part 1: 200 pts
Total for class components: 1.33 credits or 33% of grade

The practical component of the course (1 credit or 25% of grade) will include:
1. Direct training on the 300 MHz NMR instrument located in SSB or 500 MHz NMR instrument located at Chemistry Building

2. Training on UV-VIS and IR spectrometers available on the department
All students will receive an individual unknown compound, which should to be analyzed using ^{1}H and ^{13}C NMR, IR, and UV-VIS methods.

Equal Access Policies

Individuals who have any disability, either permanent or temporary, which might affect their ability to perform in this class, are encouraged to inform the instructor at the start of the semester. It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Adaptations of methods, materials or testing may be made as required to provide for equitable participation. Disability accommodations will be provided upon request. Please contact Penny Cragun, Access Center at 726-8727 for further information.