Instructor: Professor M. Lei Geng
330 IATL, Department of Chemistry
Phone: 335-3167
Email: Lei-Geng@uiowa.edu

Lectures: 10:30-11:20 am MWF, E215 CB
Office Hours: 1:30-4:30 pm Wednesdays, 330 IATL or by appointment

Reference Books:
James D. Ingle and Stanley R. Crouch, Spectrochemical Analysis, Prentice Hall.
This main reference book is available at the University of Iowa Bookstore.

Matt Young, Optics and Lasers: Including Fibers and Optical Waveguides (Advanced Texts in Physics), Springer.
These recommended reading materials are available at the University of Iowa libraries.

Course Description:
The objective of Spectroscopy is to discuss the methodologies of optical spectroscopy and their current applications in chemistry. Through the course, the student will gain a thorough understanding of spectroscopic methods, including their principles, instrumentation and data interpretation.

Course topics will cover (1) the fundamentals of optics, including geometric and physical optics, and optical components, (2) spectroscopic instrumentation, including light sources, spectrometers, detectors, (3) spectroscopic methods, including scattering, absorption and emission spectroscopy, and optical imaging. The course will introduce students to current spectroscopy applications of analytical spectroscopy, will heavily involve the current literature.

Course Web Site:
Course materials will be available on the 004:208 ICON site. Course syllabus, announcements, lecture notes and grades are posted on the site. Please print a copy of the notes the day before the lecture and bring it to the class. Submission of course assignments will also be through the course ICON site.

Grading:
Problem sets 250 points; Presentation: 150 points; Exams 400 points
Total points for the course: 800

Plus and minus grades will be assigned.
(1) Problem Sets: Four problem sets will be assigned during the semester. The first three problem sets will be based on lecture materials. (50 points each) The fourth problem set will be based on two research articles from the current spectroscopy literature. (100 points)

(2) Exams: There will be two exams in the course. First exam: 200 points. Second exam: 200 points.

(3) Paper and presentation: At the end of the semester, each student will write a review article and give a presentation on a topic of spectroscopy. These topics will be presented at a class mini-symposium scheduled for the final weeks of the semester. (150 points, 75 points for the paper and 75 points for the presentation).

Administrative Information

DEO of Chemistry Department:
Professor Mark A. Arnold
E305 CB, Department of Chemistry
Phone: 335-0200
Email: Mark-Arnold@uiowa.edu

Administrative Home
The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS Student Academic Handbook.

Electronic Communication
University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondences. (Operations Manual, III.15.2. Scroll down to k.11.)

Accommodations for Disabilities
A student seeking academic accommodations should first register with Student Disability Services and then meet privately with the course instructor to make particular arrangements. See www.uiowa.edu/~sds/ for more information.

Academic Fraud
Plagiarism and any other activities when students present work that is not their own are academic fraud. Academic fraud is a serious matter and is reported to the departmental DEO and to the Associate Dean for Undergraduate Programs and Curriculum. Instructors and DEOs decide on appropriate consequences at the departmental level while the Associate Dean enforces additional consequences at the collegiate level. See the CLAS Academic Fraud section of the Student Academic Handbook.

CLAS Final Examination Policies
Final exams may be offered only during finals week. No exams of any kind are allowed during the last week of classes. Students should not ask their instructor to reschedule a final exam since the College does not permit rescheduling of a final exam once the semester has begun. Questions should be addressed to the Associate Dean for Undergraduate Programs and Curriculum.
Making a Suggestion or a Complaint
Students with a suggestion or complaint should first visit the instructor, then the course supervisor, and then the departmental DEO. Complaints must be made within six months of the incident. See the CLAS Student Academic Handbook.

Understanding Sexual Harassment
Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI Comprehensive Guide on Sexual Harassment for assistance, definitions, and the full University policy.

Reacting Safely to Severe Weather
In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the Public Safety web site.