

Chemistry 388 Special Topics
Biological Spectroscopy

Dixie J. Goss, Professor
dgoss@hunter.cuny.edu
Office: 1308N

About this course: This course will cover basic theory and application of a variety of spectroscopic techniques used to determine structure, function and other properties of biological molecules. The amount of time spent on individual topics may vary. The course will involve problem solving and a review of math is suggested.

1/31	Intro quantum	3/23	NMR
2/2	Intro quantum	3/28	NMR
2/7	Prob/workshop	3/30	Applic NMR
2/9	x-ray theory	4/4	Prob/workshop
2/14	X-ray applications	4/6	Mass Spec
2/16	Prob./workshop	4/11-4/18	Spring break
2/21	Electronic spectra	4/20	Monday Schedule
2/23	Electronic spectra	4/25	Mass spec
2/28	Workshop	4/27	Prob/workshop
3/2	Fluorescence/Phos.	5/2	Student pres.
3/7	Applic. Fluores.	5/4	Stu. Pres.
3/9	Prob./Workshop	5/9	Stu. Pres.
3/14	CD/ORD/Anisotropy	5/11	Stu. Pres.
3/16	Prob./workshop	5/16	Stu. Pres.
3/21	MIDTERM	5/18	review
	FINAL EXAM	5/23	1:45-3:45 p.m.

Comments about the syllabus: Students will hand in a workshop assignment done in class in groups. A single solution to the workshop problems will be handed in by each group. Since we will not cover all areas of spectroscopy and certainly not all applications, there will be student presentations. These presentations can be either 1) a technique we haven't talked about, including theory, application and advantages or 2) a recent novel application of a techniques (from the literature within the last 3 years). Topic must be approved by the instructor. Presentations will be by 4 students.

Grading: Problem sets/workshops 7.5 pts. each, 6/7 count. For in class workshop. (total 45 pts)

Midterm: 20 pts. Final: 20 Pts.

Presentation: 10pts, 5 pts. For participation/discussion of presentation. (15 pts total).

TEXT: Spectroscopy for the Biological Sciences Gordon G. Hammes, 2005 Wiley

Learning Objectives: Students will understand the applications and limitations of a number of commonly used spectroscopy techniques.

Students will be expected to be able to analyze data presented in workshops and class and be able to draw appropriate conclusions.

Applications and limitations of techniques will be discussed and students will be asked which techniques are most appropriate for solving a biophysical problem.

Hunter College required statements for syllabi

1. **Academic Integrity Statement**: “Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.”
2. **ADA Statement**: “In compliance with the ADA and with Section 504 of the Rehabilitation Act, Hunter College is committed to ensuring educational access and accommodations for all its registered students. Hunter College’s students with disabilities and medical conditions are encouraged to register with the Office of AccessABILITY for assistance and accommodation. For information and appointment contact the Office of AccessABILITY located in Room E1214 or call (212) 772-4857 /or VRS (646) 755-3129.”
3. **Hunter College Policy on Sexual Misconduct** “In compliance with the CUNY Policy on Sexual Misconduct, Hunter College reaffirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationships. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.
 - a. **Sexual Violence**: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, or contacting the College's Public Safety Office (212-772-4444).
 - b. **All Other Forms of Sexual Misconduct**: Students are also encouraged to contact the College's Title IX Campus Coordinator, Dean John Rose (jtrose@hunter.cuny.edu or 212-650-3262) or Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

CUNY Policy on Sexual Misconduct Link:

<http://www.cuny.edu/about/administration/offices/la/Policy-on-Sexual-Misconduct-12-1-14-with-links.pdf>”