John Jay College of Criminal Justice/CUNY

445 W59th Street, New York, NY 10019

Department of Sciences

Che 320: Instrumental Analysis

Instructor: Dr. Yi He
Tel: 212-484-1314 Room: 4208-1 N
email: yhe@jjay.cuny.edu

Lecture: Tuesday/ Thursday 9:25 am – 10:40pm

Office Hour: Tuesday/Thursday 10:45-11:30am (walk-in)
Other time by appointment

Prerequisites: Eng. 102, Che 103-104, 201-202, and 220; Phy 203-204; Mat 241-242
Co-requisite: Che 302

Course description:
Instrumental Analysis (Che 320-321) introduces the theory and application of analytical instruments commonly employed in forensic and other quantitative industrial, environmental and clinical laboratories. The methods include atomic and molecular spectroscopy, X-ray spectroscopy, mass spectroscopy, and chromatography. Data treatment, analytical calibration methods, performance characteristics, quality assurance protocol and modern sample preparation techniques are also covered. Ethics in science/forensic science is also discussed.

Course outline:

#	Tue. class	Thu. class	Topics	Readings
1	8/30	9/1	Introduction to the course, laboratory and related lab techniques;	*Course and instrument introduction* (1) Lab manual-Introduction; (2) Handouts; (3) Review Che 220 Textbook Chapter 2 & 4. (4) Robinson Book: 2.4; 5.1; 5.2; 12.3 – 12.6; 12.7.2; 4.1; 4.2 (5) IR packets *Data treatment:* (1) Skoog Book: 1A- 1C; a1A (p967), a1B, (2) Robinson Book: 1.1-1.3
2	9/6	9/8	Introduction to instruments (GC, UV and IR). Data treatment	
3	9/13	9/15	Calibration methods; Performance characteristics	(1) Skoog Book: 1D; 1E; a1D; 5A, 5B (2) Robinson Book: 1.5; 1.6; 2.5