Chem 120 - QUANTITATIVE CHEMISTRY II
Spring 2005

Instructor: Dr. Thomas P Beebe, Jr. (175 Brown Lab, 831-1888, beebe@udel.edu)
Secretary: Ms. Linda Grant (107 Brown Lab, 831-1962, lgrant@udel.edu)

Required Course Supplies (Available at University Bookstore or on the web):

- **Textbook**: Daniel C. Harris, Quantitative Chemical Analysis, 6th Ed.
- **Lab Manual**: Laboratory Manual for Chemistry 120, Spring 2005 (on the web)
- **Lab Protection**: **SAFETY GOGGLES ARE REQUIRED AT ALL TIMES IN THE LAB!**
  Long Pants, Shoes & Shirts with Sleeves Required.
  NO Shorts, Skirts, Sandals, Open-Toe Shoes, Bare midriffs.
- **Calculators** **No special requirements or restrictions**

Other Resources

- Tutors - For more information, see Mrs. MacMillan in BRL 104
- Your textbook: http://bcs.whfreeman.com/qca/

Office Hours

- Location - 175 BRL : T: 4:00-5:00; W: 2:00-3:00; R: 10:00 -11:00; **and by appointment**
- TA & Other Help Sessions - Schedule to be announced as needed

Discussion Periods

- Report to discussion promptly each week in order to hear lab instruction presentation by TA.
- First discussion of the week will be a Lab Recitation, led by your TA.
- Second discussion of the week will be a Homework Recitation session, led by your TA.
- No make-up for missed recitations.
- Discussion and Recitation attendance is required and will be noted.

Laboratory

- Lab meets twice a week. First Lab and first discussions meet during week of February 21, 2005.
- Report to lab promptly each week in order to hear Lab Recitation presentation by TA.
- Labs and make-up labs can only be done during the week scheduled.
- Missed labs CANNOT be made up and will be either EXCUSED or UNEXCUSED.
  - An excused score will be recorded for an EXCUSED LAB.
  - A score of zero (0) will be recorded for an UNEXCUSED LAB.
  - An EXCUSED LAB requires a note from doctor to be given to TA.
- Lab is an inseparable part of Chem 120. Your lab grade is part of your overall grade.
- **NOTE**: An excessive number of missed labs will result in a failing grade for the entire course.
- **Make-up Labs -** See Professor Beebe for a lab pass.

Grading Policies - The minimum requirements for obtaining a passing grade.

- Successful completion of at least eight (8) laboratory experiments. You must do all 9 labs.
- Successful completion of the final examination.
- Obtaining a total of at least 400 points on the grading scheme outlined below.

Tentative Grading Scheme - 800 points available

- **Two in-class Examinations (200 points, 25 %).** Two (2) 100-point exams will be given. No make-up exams will be given for any reason. Your final exam will be up-weighted to account for any excused in-class exam.
- **Laboratory Grade (400 points, 50 %).** Nine lab experiments are scheduled. Best 8 used for grade.
- **Final Examination (200 points, 25 %)** The final exam will be cumulative.
- **Midterm Grade Will Be Based On Exam #1 ONLY – No Lab Grade !**
- **If You Have No Exam #1 Score, Your Midterm Grade Will Be a "D".**

Chemistry 120
APPROXIMATE SCHEDULE OF LECTURES
Spring 2005

DATE	LECTURE TOPIC	PROBLEMS	LAB EXPERIMENTS
Feb. 14	1) Ch13. Syllabus and Complexation Chemistry	**13.**1-6,27,28, 30-32,34	NONE
Feb. 21	2) Ch14. Electrochemical Fundamentals	**14.**4,5,8,10,11,16,18, 24,28,43	1. Acid/Base Titration with Computer Analysis
Feb. 28	3) Ch 15 & 16. Electrodes, Potential & Redox Titrations	**15.**2-4,8,9,16,18, 32-3,36,47 **16.**2,3,13,23	2. EDTA Titration of Ca^{2+} and Mg^{2+}
Mar. 7	4) Ch 17. Voltametry, Coulometric Analysis, Electrogravimetry	**17.**7-9,16-7,24-26	3. Iodometric Determination of Hypochlorite in Bleach
Mar 14	**5) Exam#1 – Ch. 13-17 EDTA, Electrochemistry**	**Chap. 13-17 Appendices**	NONE – exam week
Mar. 21	6) Ch 18. Fundamentals of Spectroscopy	**18.**2,6,7,10,12-4, 20,27	4. Coulometry
Mar. 28	**SPRING BREAK – no classes**		NONE
Apr. 4	8) Ch 18. Fundamentals of Spectroscopy AND Ch19. Atomic Spectroscopy	**18.**2,6,7,10,12-4, 20,27 **19.**2,3,16-8,23-5	5. Spectroscopic Assay of Aspirin
Apr. 11	9) Ch19. Atomic Spectroscopy	**19.**2,3,16-8,23-5	6. Spectroscopic EDTA Titration of Cu
Apr. 18	10) Ch 20 & 21. Molecular & Mass Spectroscopy	**20.**1-3,5,8 **21.**3,5-10,20-3	7. Turbidimetric Analysis of Sulfate in River Water
Apr 25	11) Exam#2 – Ch 18-21 **Spectroscopy**	**Chapters 18-21**	NONE – exam week
May 2	12) Ch 22. Simple & pH-Dependent Extractions	**22.**8-12	8. Spectroscopic Determination of Fe
May 9	13) Ch 23. Chromatography Fundamentals	**23.**7-9,13,17,26, 35-9	9. Two-Component Spectroscopy
May 16	14) Ch 24. Gas & Liquid Chromatography	**24.**4-9,18,19,24, 26 **25.**1-5,9-10	NONE
May 23	**15) FINAL EXAM: Ch 13-25 Regular time and room**	**Chap. 13-25 Appendices**	NONE