Chemistry 3332 - Fall 2011

Textbook

Lecture Material, and Essential Reading.
The material that is presented in both the lecture and laboratory parts of the course defines the details and direction of the course content. In general, you should consider that you should be studying the material covered in lecture. However, you will achieve at a higher level in the course, if you read, and learn, beyond the confines of the lecture material. In addition, excellence may be achieved if you read other textbooks and articles on quantitative analytical chemistry, and practice a large number of problems. Additional, inexpensive used textbooks in past editions are usefully purchased from sources on the Internet.

Lecture Sequence
Approximate number of lectures in parentheses – numbers of lectures may vary. Chapter numbers may vary as a function of the edition of the book that you use. It is up to you to figure out which chapter(s) is being covered in class. Part 5 may not be covered.

Part 1. Introduction to Quantitative Analytical Chemistry (2)
Read Chapters 0, 1 and 3.

Part 2. Statistical Handling of Data and Methods of Calibration (6)
Read Chapters 4 and 5

Part 3. Analysis by Titration (6)
Acid Base Equilibria, and Titration Curves. Read Chapters 6, 7, 10, 11, 12
Complexometric Titrations. Read Chapter 13
Redox Titrations, and Electrode Potential. Read Chapters 14, 15, 16

Part 4. Spectrometry and Spectrophotometry (6)
Molecular Spectrometry. Read Chapter 19-21
Atomic Spectrometry. Read Chapter 22
Sample Preparation, Read Chapter 28

Examination Dates, and Times
You will not usually be tested on material covered in a previous examination, except for quantitative aspects of statistical analysis of data, concentration units, and concepts of calibration. All examinations will be in class. Some exams last over two classes. The final examination may have a quiz-type cumulative section and a section that covers material presented after the third examination. In addition, these details may change depending on the progress of the class during the semester. Upon request by the class, the teaching assistants are required to provide help sessions immediately before examinations. Please ask your TAs to arrange this. Quizzes and homework may be given at any time.
First Examination
Wednesday, September 21, 2011. In class, in JONS 229

Midterm Examination
Monday, October 17, 2011, Part 1 during class, JONS 229
Wednesday, October 19, 2011, Part 2 during class, JONS 229

Third Examination
Monday, November 14, 2011, Part 1, JONS 229
Wednesday, November 16, 2011, Part 2, JONS 229

Thanksgiving is November 20-27, 2011

Final Examination
December 12-18, 2011, JONS 229 (Exact time TBA).

Homework
Homework will be assigned, approximately once every two weeks, and you will be asked to hand it in for grading. However, this homework does not represent the full extent of the studying that is expected of you. In addition, you should attempt to do all the relevant problems at the end of each assigned chapter in Harris, as we progress through the semester. The solutions to the problems are in the “Solutions Manual” for Harris. If you study the Harris problems competently you should have less difficulty with examinations. Reliance on the biweekly homework assignments for practice of problems will not be enough to allow you to do well in the examinations. You must set your own goals for studying, or risk poor examination performance. Please be aware that, if class attendance is insufficient, random homework will be set with very short lead times for completion.

Grading
The course grade will be based 60% on the examinations, quizzes, and graded homework assignments, and 40% on the laboratory reports, and laboratory notebook. The 60% that constitutes the examinations and homework assignments will be structured such that the quizzes and graded homework assignments shall constitute about 12% of the course grade, while the four examinations will each constitute 12% of the course grade, each.

Professor Robert G. Michel; Chemistry A319
The routine method of communication for appointments, discussion of course work, etc. is by E-mail: robert.g.michel@uconn.edu, or AOL IM text/voice/video at “auchengrange”, or Skype text/voice/video at rg_michel. If you want to find me in my office without making an appointment, office hours are Mondays, and Wednesdays after lecture for about half and hour or so, and on Wednesdays at 4 pm, for an hour. Otherwise, a calendar can be found at: http://ical.mac.com/rgmichel/RGMichel_Calendar. Blue space in the calendar shows when I already have appointments. White space is time available when you can make an appointment. Find a half-hour white space slot and let me know your chosen time by email. You cannot alter the calendar on the web. I will acknowledge an appointment by email, and reserve the time slot.