## FLORIDA INTERNATIONAL UNIVERSITY DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY CHM 3120: Introduction to Analytical Chemistry Summer 2010

Instructor: Piero R. Gardinali, Ph. D. E-mail: gardinal@fiu.edu Web-site: http://www.fiu.edu/~gardinal/ Tel.: (305) 348-6354 Office: BBC MSB356 NO OFFICE AT MMC Office Hours/Location: Th 2:00-3:00 PM or by appointment.

Textbook:\* Quantitative Chemical Analysis, 7th Edition, Daniel C. Harris<br/>(ISBN# 0-7167-4464-3)Solutions Manual for Quantitative Chemical Analysis, 7th<br/>Edition, Daniel C. Harris (ISBN# 0-7167- 4984-X)<br/>\*Required reading

Pre-Requisite: CHM 1046/1046L

Class Time/Room: Tu Th 12:30 – 1:45PM Green Library GL100-A

**Grading:** Grading in the course will be based on two (2) exams worth 25% each, and a final <u>comprehensive</u> exam worth 40% of your grade. In addition, three (3) short quizzes will be given during the semester; these exams will be given at the beginning of lectures, will last 15 minutes and are based on the "Problems" associated with the reading assignment for that lecture and/or the preceding one. Two of them may be an Excel based report that you will have to e-mail back. These exams will be worth an <u>additional</u> 10% of the grade.

Grading will be largely based on a standard grading scale as follows: A (100-90%), A- (89-88%), B+ (87-85%), B (84-80%), B- (79-78%), C+ (77-75%), C (74-70%), C- (69-68%), D+ (67-65%), D (64-60%), D- (59-58%), F (<58%)

Attendance Policy: Attendance of lectures is required – both attendance and keepingup with reading are <u>essential</u> to success in the course. Tardiness is very disruptive; avoid showing up late for lectures. I reserve the right to deny class access if you are late.

**Classroom Policy**: All pagers and cell phones **MUST** be off or in "vibration or silent mode" before you enter the classroom. Disruptive behavior that infringes on others to learn during lectures will **NOT** be tolerated and you will be asked to leave. **Exam Policy**:

There will be **<u>NO MAKE-UP EXAMS</u>**. All requests for missing assignments or test will be considered only if they are based on a VALID excuse as defined by FIU policy and

properly documented. Students will be expected to follow the academic code of honor established by the University. Cheating during an exam is the easiest way to be dismissed from the university! Please bring pencils (#2), and calculators with two variable statistics and log function, to exams. ELECTRONIC DEVICES WILL NOT BE ALLOWED DURING EXAMS.

**Students with Disabilities:** If you feel you may need special accommodations in class please visit the Office of Disability Services (website: http://drc.fiu.edu) and ensure the appropriate accommodations. Please be certain to present me with the documentation as soon as possible. As exam time draws near, it will be the responsibility of the student to arrange a time to take the exam at the DRC.

	Date	Chapter	Topic
Week 1	May 4	0, 1	Introduction to Analytical Chemistry and
	-		Measurements
	May 6	2	NO CLASS
Week 2	May 11	2-3	Experimental Error in Analytical Chemistry/ Basic To of Analytical Chemistry
	May 13	4-1 to 4-6	Statistics in Analytical Chemistry
Week 3	May 18	4-7 to 4-9	Least Squares and Calibration QUIZ 1
	May 20	5	Quality Assurance
Week 4	May 25	6	Chemical Equilibrium
	May 27	6	Chemical Equilibrium (cont)
Week 5	June 1		EXAM 1
	June 3	7	Titration
Week 6	June 8		Titration (cont.)
	June 10	8	Activity and Chemical Equilibrium
Week 7	June 15	9-1 to 9-4	Monoprotic Acids
	June 17	9-5	Buffers QUIZ 2
Week 8	June 22	10	Polyprotic Acids LAST DAY TO DROP
	June 24	11	Acid-Base Titrations
Week 9	June 29	12	Compleximetric Reactions/EDTA Titrations
	July 1		EDTA Titrations (cont.)
Week 10	July 6		EXAM 2
	July 8	14, 15	Introduction to Electrochemistry, Electrodes
Week 11	July 13	16	Redox Titrations
	July 15	18-20	Spectrophotometry
Week 12	July 20	21,22	Atomic Spectroscopy, Mass Spectrometry
	July 22	23,27	Introduction to Analytical Separations QUIZ 3
Week 13	July 27	26	Chromatography
	July 29	24	Gas Chromatography
Week 14	August 3	25	Liquid Chromatography
	August 5	28	Extraction; Sample Preparation
T.B.A.			FINAL EXAM

## CHM 3120: Introduction to Analytical Chemistry Tentative Class Schedule for Summer 2010

\*Readings from indicated chapter(s)/section(s) in the textbook (*Quantitative Chemical Analysis*, 7<sup>th</sup> Edition, Daniel C. Harris), unless otherwise noted.

Notes: June 22<sup>rd</sup> Last day to drop with a DR grade.

August 7<sup>th</sup> Classes End.