

Syllabus**CHM 3120, Introduction to Analytical Chemistry****Spring 2018****Lecture hours** – Monday, Wednesday, Friday Period 2 (8:30 – 9:20 AM)**Instructor** – The Colonel*, Prof. Charles R. Martin, profcrmartin@gmail.com

*Honorable Order of Kentucky Colonels

Instructor's office - 218 Chemistry Laboratory Building (CLB)**Office hours** - Wednesday 2:00-3:45 PM, Friday 9:30-11:00 AM**TA** - Yiruo Lu, winnielyr12@chem.ufl.edu

TA Office hours - Monday 2:00-3:30 PM, Tuesday Noon-1:30 pm, Flint 258

Course information and objective – In overly simplified terms, Analytical Chemistry is about measuring the concentration of a substance (a drug, pollutant, protein, amino acid, etc.) in a solution (blood, water, saliva, air....). This is important because if the concentration of the pollutant is too high, the water may be toxic, and if the concentration of the drug is too low, it will not cure the illness. Analytical Chemistry is typically described and taught in terms of the methods used to do chemical analysis. CHM3120 provides the background information needed to understand these various methods. This course also gives important practical information such as the types of analytes that can be quantified, the concentration range over which the method is reliable, and substances that might interfere with the measurement. My overall objective is to teach in a way that you will truly understand this interesting and important branch of chemistry that has been my life's work.

Text - "Quantitative Chemical Analysis", 9th Edition, Daniel C. Harris, Freeman Pub, 2016

Chapters covered – My intention is to cover the following chapters. However, this is my first time teaching this class, so it is hard for me to predict exactly the schedule.

Chaps 0 – 4 – Important background information into the science of chemical measurements, and the statistical methods used to interpret such measurements

Chap 6 – Chemical equilibrium. Review of material you learned in CHM2046. I am assuming that you know this material but will discuss some, as needed. Read this chapter carefully. This same comment applies to all chapters below labeled CHM2046.

Chap 7 – Titrations CHM2046

Chap 8 – The concept of chemical activity

Chap 9 – Monoprotic acids CHM2046

Chap 10 – Polyprotic acids CHM2046

Chap 11 – Acid-base titrations CHM2046

Chaps 14 - 17 – Electrochemistry and electrochemical methods. You were taught some of this in CHM2046, but I will present the basics of electrochemistry in a different way and then move on to electrochemical methods of analysis. I did my PhD in this area.

Chaps 18 – 21 – Methods based on measurements of light.

Class attendance – I will not necessarily follow the order given in your text, and I will often explain things in a different way than your text. Therefore, attending every class is essential.

Grading – There will be three in-class exams and a final exam (over for details). To accommodate any emergency that might arise, you will be allowed to drop your lowest in-class-exam score, but you cannot drop or miss the final, which is cumulative.

Grading will be based on 600 total earnable points as follows:

Exams - 2 best exam scores x 200 points per exam	400 points max	
Final Exam	<u>200 points max</u>	
Total Maximum Earnable Points		600

Alternatively, if you take all three in-class exams and choose not to drop any, your grade will be determined by these scores, and you can skip the final exam.

Point total & letter grade cutoffs – Minimum points required to get the indicated grade.

A = 525 (87.5%), A- = 507 (84.5%), B+ = 489 (81.5%), B = 465 (77.5%), B- = 447 points (74.5%), C+ = 429 (71.5%), C = 405 (67.5%), C- = 386 (64.3%), D+ = 368 (61.3%), D = 345 (57.5%), D- = 326 (54.3%)

Exam dates

Exam 1	Friday, February 9, in class
Exam 2	Friday, March 23, in class
Exam 3	Wednesday, April 25, in class (last day of class)
Final exam	Thursday, May 3, 5:30-7:30 PM, location TBA

UF Grading Policies - <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Missed in-class exams - Because you will be allowed to drop one exam, no makeups will be offered. However, if you have a sanctioned absence - religious observance, sanctioned sporting event, other UF exam for course with higher course number - you will be allowed to take the exam before, not after, the rest of the class. You must inform your TA and me at least two weeks in advance of a sanctioned absence.

Disputed grades – To dispute a score send an e-mail message to me. You have 48 hours after posting to dispute a score. After that, all scores are final.

e-Learning - We will use the UF Canvas e-learning system for course management. Here you will find the syllabus, your grades, which only you may see, class announcements, and other pertinent information for the course. All documents are posted under “Files.” Access e-Learning through your myUFL portal.

Academic Honesty – The Colonel says honesty is one of the most important of human virtues. Being honest keeps you out of trouble and provides the best path forward too. Exams are given under the provisions of the University of Florida Honor System. Any student caught cheating will receive a failing grade in the course. Please review UF's policy on academic honesty at <https://catalog.ufl.edu/ugrad/1617/advising/info/student-honor-code.aspx>.

Other Information - Students with disabilities requesting accommodations, please contact the Disability Resource Center at www.dso.ufl.edu/drc/ or 352-392-8565.

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Students will be notified when evaluations are required.