

Lecture hours – Monday, Wednesday, Friday Period 2 (8:30 – 9:20 AM)

Instructor – The Colonel*, Prof. Charles R. Martin
*Honorable Order of Kentucky Colonels

Instructor's E-mail - profcrmartin@gmail.com

Instructor's office - 218 Chemistry Laboratory Building (CLB)

Instructor's office hours - Wednesday 2:00-3:45 PM, Friday 9:30-10:30 AM

TA - Jake Zhu <jiaqiang.zhu@chem.ufl.edu>

TA Office hours – Tuesday 9:00–10:30 am, Friday Noon-1:30 pm, Flint 258

Course Information and Objective – Analytical Chemistry entails measuring the concentration of a substance (*e.g.*, a drug, DNA, pollutant, protein) in a solution (blood, water, saliva, air, *etc.*). Knowing the concentration is important because, for example, if the concentration of a pollutant in water is too high, the water is unsafe to drink. Alternatively, if the concentration of a drug in the blood is too low, it will not have the desired therapeutic effect.

Analytical Chemistry is typically taught in terms of the methods used to do chemical analysis. CHM 3120 provides the background information needed to understand these various methods.

My 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 – Many of the chapters in your text cover material that you were taught in freshman chemistry (see "Review Chapters" list). I do not intend to teach this material to you again. However, material from these chapters will be discussed as needed and could appear on an exam. I advise you to read these review chapters carefully. The bulk of my lectures will be on the chapters in the "New Material" list here.

New Material

Chaps 0 – 4 – Critical background information

Chap 8 – The concept of chemical activity

Chaps 14 - 17 – Electrochemistry and electrochemical methods

Chaps 18 – 21 – Methods based on measurements of light

Review Chapters (read them)

Chap 6 – Chemical equilibrium

Chap 7 – Titrations

Chap 9 – Monoprotic acids

Chap 10 – Polyprotic acids

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. All exams, in-class and final, are worth 200 points each. To accommodate any emergency that might arise, you will be allowed to drop your lowest in-class exam score. As a result, no make-up exams will be offered. However, if you have a sanctioned absence (*e.g.*, religious observance, sanctioned sporting event) you will be allowed to take an in-class 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. At the end of the semester you may choose either of these grading options.

Normal option – Drop lowest in-class exam score and take the final exam

Sum of 2 best in-class exam scores	400 points max
Final exam score	<u>200 points max</u>
Total maximum earnable points	600

No-drop option - Keep all three in-class exam scores and skip the final

Sum of 3 in-class exam scores	600 points max
Total maximum earnable points	600

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	Monday, February 11, in class
Exam 2	Friday, March 22, in class
Exam 3	Wednesday, April 24, in class (last day of class)
Final exam	Wednesday, May 1, 3:00-5:00 pm, location TBA

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

Disputing a Score – To dispute a score send an e-mail message to your TA and 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 Code. Any student caught cheating will receive a failing grade in the course. Review the Honor Code here.
<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>

Other Information

Students wanting disability accommodations, please contact the Disability Resource Center at www.dso.ufl.edu/drc/ or call 352-392-8565.

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations. Students will be notified when evaluations are required.