

CHM 3120
INTRODUCTION TO ANALYTICAL CHEMISTRY
Spring Semester 2021, 3 Credits

- Instructor:** Boone Prentice, CLB C210C, 352-392-0556,
booneprentice@chem.ufl.edu
- Lectures:** HyFlex: T R F, 7:25AM-8:15AM (Period 1), FLI 0050 &
Online via Zoom
- Office hours:** Friday 4:30PM-5:30PM via Zoom
You may also e-mail me or a TA to set up a 1-on-1 Zoom
appointment.
- Graduate TAs:** Jiaqiang "Jake" Zhu, jiaqiang.zhu@chem.ufl.edu.
Office Hours: Tuesday 8:30AM-9:30AM via Zoom
Tingting Yan, yantingting@chem.ufl.edu
Office Hours: Thursday 1:30PM-2:30PM via Zoom
- Course objectives:** In this course, you will be introduced to the basics of
analytical chemistry and how analytical techniques are used
to make quantitative measurements. Lectures will
emphasize both classical and modern techniques, with a
greater focus on modern methods and recent developments.
Included in this will be discussions of statistical analyses and
data interpretation. Some aspects of quantitative analysis
will also be covered.
- Optional Textbook:** "Quantitative Chemical Analysis," 10th Edition, Daniel C
Harris, Freeman, 2020. The book is not required, but may
serve as a useful reference.
"Analytical Chemistry," Version 2.1, Online Textbook,
David T. Harvey. Available:
http://dpuadweb.depauw.edu/harvey_web/eTextProject/version_2.1.html
- Grading:** Grades will be based on three exams (75%), and a final
exam (25%). Grades will be determined on a straight scale
as shown below and posted in Canvas. A curve may be
applied at the end of the term at the professor's discretion.

<u>Grade</u>	<u>Percentage</u>	<u>Grade</u>	<u>Percentage</u>	<u>Grade</u>	<u>Percentage</u>
A	≥93	B-	≥80	D+	≥67
A-	≥90	C+	≥77	D	≥64
B+	≥87	C	≥73	E	<60
B	≥83	C-	≥70		

Exams: Online via Canvas synchronously.

Information on current UF grading policies is online: (<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>).

If you believe there was an error in grading, please see Prof. Prentice or the TA within 1 week of having the exam returned to you. We do our best to ensure that the grading is fair for all students.

Course policies:

Attendance will not be recorded, but attendance at lectures is important for assimilating the course material. PowerPoint lectures may not contain 100% of the information provided in class. All lectures will be recorded and uploaded to Canvas for your convenience. Any request for make-up exams for absences due to sporting events, family matters, religious obligations, etc. should be made to Prof. Prentice as far in advance as possible. If you are sick and unable to take your exam during the allotted time, please inform me via email and provide a note from a doctor or medical professional when you are well. Make up exams will only be given if appropriate documentation is provided. Late exams will not be permitted otherwise.

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

UF students are bound by The Honor Pledge which states: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honorcode/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that

facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class." Violations of the Honor Code will be reported to the Dean of Students Office.

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

For counseling the following resources are available to students: **U Matter, We Care:** If you or a friend is in distress, please contact umatter@ufl.edu or 352-392- 1575. **Counseling and Wellness Center:** <http://www.counseling.ufl.edu/cwc/Default.aspx>, 352-392-1575; the University Police Department: 352-392-1111 or 911 for emergencies. **Sexual Assault Recovery Services (SARS):** Student Health Care Center, 352-392-1161.

COVID-19 Changes: CHM 3120 is typically an in-person course. Due to the COVID-19 pandemic, the course will consist of a HyFlex arrangement, with in-person attendance and online attendance via Zoom synchronously. Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live.

Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited. If you experience technical issues with connecting, you should contact the UF Help Desk (<https://helpdesk.ufl.edu>, 352-392-4357).

TENTATIVE LECTURE SCHEDULE

<u>Date</u>	<u>Lecture</u>	<u>Topic</u>	<u>Textbook</u>
T 1/12	1	Introduction and Overview	Ch. 0 & 1
R 1/14	2	Units and Chemical Measurements	Ch. 1
F 1/15	3	Tools	Ch. 2
T 1/19	4	Error and Sigfigs	Ch. 3
R 1/21	5	Sigfigs Continued	Ch. 4
F 1/22	6	Statistics	Ch. 4
T 1/26	7	Statistics	Ch. 4
R 1/28	8	Quality Assurance and Calibrations	Ch. 5
F 1/29		Exam 1 Preparation	
T 2/2		Exam 1 (Ch. 0-5)	
R 2/4		Exam 1 Review	
F 2/5	9	Introduction to Spectroscopy	Ch. 18
T 2/9	10	Introduction to Spectroscopy	Ch. 18
R 2/11	11	Fundamentals of Spectroscopy	Ch. 18
F 2/12	12	Spectroscopic Instrumentation	Ch. 20
T 2/16	13	Spectroscopic Instrumentation	Ch. 20
R 2/18	14	Atomic Spectroscopy	Ch. 21
F 2/19	15	Atomic Spectroscopy	Ch. 21
T 2/23	16	Applications of Spectroscopy	Ch. 19
R 2/25		<i>No Class – UF Student Recharge Day</i>	
F 2/26		Exam 2 Preparation	
T 3/2		Exam 2 (Ch. 18-21)	
R 3/4		Exam 2 Review	
F 3/5	17	Fundamentals of Electrochemistry	Ch. 14
T 3/9	18	Electrodes and Potentiometry	Ch. 15
R 3/11	19	Electrodes and Potentiometry	Ch. 15
F 3/12	20	Cyclic Voltammetry	Ch. 17
T 3/16	21	Cyclic Voltammetry	Ch. 17
R 3/18	22	Applications of Electrochemistry	
F 3/19		Exam 3 Preparation	
T 3/23		Exam 3 (Ch. 14-17)	
R 3/25		<i>No Class – UF Student Recharge Day</i>	
F 3/26		Exam 3 Review	
T 3/30	24	Separations	Ch. 23
R 4/1	25	Liquid Chromatography	Ch. 25
F 4/2	26	Liquid Chromatography	Ch. 25
T 4/6	27	Gas Chromatography	Ch. 25
R 4/8	28	Mass Spectrometry	Ch. 22
F 4/9	29	Mass Spectrometry	Ch. 22
T 4/13	30	Mass Spectrometry	Ch. 22
R 4/15	31	Applications of Mass Spectrometry	
F 4/16		Final Exam Preparation	
T 4/20		Exam 4 (Ch. 22-25)	