

CHM 4130
Analytical Chemistry II
Instrumental Analysis

Spring, 2022

Instructor: Prof. Y. Charles Cao, Leigh Hall 226, Phone:392-9839

Email: email through Canvas only

Lecture hours: M, W, F, Period 4 (10:40 PM – 11:30 PM), FLI 0109, and online synchronously (HyFlex).

Office hours: M/W/F: 12:00-12:50 pm (F2F at Leigh Hall 226) or via the Zoom platform

Disclaimer: The instructor reserves the right to make changes or corrections to this syllabus at any time. Students will be notified when any change is made by an announcement on Canvas.

Course Information: The lectures are designed to facilitate your learning, discuss important concepts and direct your study. Class attendance will allow you to focus on the important concepts. To master this course, it is very important that you keep up with both the reading of book chapters and the working of homework problems. In addition, this course covers a lot of material and it moves very fast. Do not let yourself get behind.

Textbook: **Principles of Instrumental Analysis** 7th Ed., Douglas A. Skoog, F. James Holler and Stanley R. Crouch, Thomson Brooks/Cole, 2017.

Problem Sets: Ten homework sets will be assigned throughout the semester as an aid in comprehending the course material. The homework sets will be very helpful in preparing for the exams. As needed, homework and the related material will be discussed in class.

Exams: There will be three 2-hour exams during the semester, and the comprehensive final exam. The exams will cover homework problems and will emphasize understanding the lecture material and problem solving. All exams will be in person and closed book.

Exam I: Feb 3 (Th): 8:20 p.m. – 10:20 p.m.: E2-E3, TBA

Exam II: March 3 (Th): 8:20 p.m. – 10:20 p.m.: E2-E3, TBA

Exam III: April 5 (T): 8:20 p.m. – 10:20 p.m.: E2-E3, TBA

Final: April 28 (Th): 3:00 PM - 5:00 PM, FLI 0109

Evaluation of Grades:

(1) Exams: The three progress exams are worth 200 points, and the final exam is worth 230 point.

- (2) **Homework:** The total points for homework assignments are 120 points: each one is worth 12 points if you turn the assignment in with total complication on time, while turning homework in late will cost 2 points per day.
- (3) **Attendance:** Total worth of 50 points will be accounted toward final grade. Students who are sick can attend class online via zoom.

Total = 50 points + 3 x 200 points + 230 points + 120 points = 1000 points

Grading Policy:

A:	890 – 1000
A ⁻	860 – 889
B ⁺	830 – 859
B:	800 – 829
B ⁻	770 – 799
C ⁺	740 – 769
C:	700 – 739
C ⁻	680 – 699
D ⁺ :	660 – 679
D:	630 – 659
D ⁻ :	600 – 629
E:	0 – 599

Disputed Grades: You have the full right to dispute any grade received in this class, but the dispute must be in writing and submitted to your TA as a message through Canvas only (and copy to cao@chem.ufl.edu) within one week of the grade being posted to canvas. After one week, the instructor considers those grades final.

Progress exam “average/replace” Policy: This applies to all students. No quiz or progress exam score will be dropped for any reason. To alleviate the stress of potential issues that do not fall under officially sanctioned absences, we have incorporated an “average/replace” policy: the lowest of the three progress exams will be replaced by the average of the three progress exams. This policy helps to minimize the impact of a single poor performance (it will not disappear but will be minimized). *For example*, if a student scores the following on their three progress exams: 30%, 70%, 80%, the 30% would be replaced with the average of 30, 70 and 80, which is 60%. That is a much better score than a 30%.

Exam Absences and Conflict/Make-up Policy: Absences will be handled in accordance with official UF academic regulations. For more information, see <https://catalog.ufl.edu/UGRD/academic-regulations/>. Below is further clarification for two different types of situations.

(1) Conflicts with other events: Acceptable reasons to miss a scheduled exam include conflicting evening exams in courses with higher course numbers, religious holidays, military obligations, special curricular requirements (e.g., attending professional conferences), or

participation in official UF-sanctioned activities such as athletic competitions, etc. For more information on such absences see the official UF Policy at <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/#absencestext>). If you must be absent for an exam due to a documented and approved conflict known in advance, you must e-mail your instructor the documentation at least one week prior to the scheduled exam and an early conflict exam will be scheduled for you.

(2) Missing an exam or quiz due to an emergency or sudden illness: If you are absent for an exam due to an unpredicted documented medical reason or family emergency, you must contact the instructor as soon as possible, and you may be asked to have your excuse verified by the Dean of Students Office (DSO). Your instructor will follow UF academic regulations in evaluating the notification and/or documentation received by you or by the DSO on your behalf. Once your instructor is satisfied with the validity of your exam absence a make-up exam will be scheduled after a reasonable amount of time, i.e., before the end of the semester. If your documentation is deemed insufficient to excuse your absence you will receive a zero on the missed exam.

Canvas: UF's e-learning platform, Canvas, can be found at <http://elearning.ufl.edu>. You will find the syllabus, gradebook, files, class announcements, and other pertinent info for the course. Check Canvas often to ensure that you do not miss important announcements and that your gradebook is accurate. You are responsible for verifying that your grades are accurate.

Audio/Video Presence Policy: Our class sessions (lectures) 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.

Honor Code: 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 (<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>) 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.

U Matter, We Care: Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Accommodations for Students with Disabilities: Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting disability.ufl.edu/students/get-started. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation (use canvas email). The student is responsible for scheduling the exam dates with the DRC. Students with disabilities should follow this procedure as early as possible. The DRC has 4 business day policy to submit Accommodated Testing Requests (ATRs).

UF Course Evaluations Process: Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

General Education Program objectives: Physical science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the physical sciences. Courses focus on major scientific developments and their impacts on society, science and the environment, and the relevant processes that govern physical systems. Students will formulate empirically testable hypotheses derived from the study of physical processes, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments. These objectives will be accomplished through participation in the course lectures and discussion sections, and individual work done on homework assignments and assessments.

This course satisfies the General Education requirement in the Physical Sciences.

A minimum grade of C is required for general education credit.

General Education Student Learning Outcomes: The following learning outcomes will be assessed through online assessments and examinations.

Area	Institutional Definition	Institutional SLO
CONTENT	Content is knowledge of the concepts, principles, terminology and methodologies used within the discipline.	Students demonstrate competence in the terminology, concepts, methodologies and theories used within the discipline.
COMMUNICATION	Communication is the development and expression of ideas in written and oral forms.	Students communicate knowledge, ideas, and reasoning clearly and effectively in written or oral forms appropriate to the discipline.
CRITICAL THINKING	Critical thinking is characterized by the comprehensive analysis of issues, ideas, and evidence before accepting or formulating an opinion or conclusion.	Students analyze information carefully and logically from multiple perspectives, using discipline specific methods, and develop reasoned solutions to problems.