# CHM 3120
## Syllabus
## Introduction to Analytical Chemistry
## Summer 2025

Instructor: Dr. Alex Jacobs, Leigh 202A (office is inside the lab)
jacobsa@chem.ufl.edu Phone: 352-392-0528
Office Hours: Tuesday and Wednesday 12:30pm-1:30pm
Zoom ID: 985 770 6216
Password: Officehr

Graduate TAs:
Kyle Morgan
Julia Schwieg
Cong Sun

Lectures: T/W/F Period 3 (11:00-12:15), in Flint 50

Free option: Analytical Chemistry 2.1, David Harvey
https://chem.libretexts.org/Bookshelves/Analytical_Chemistry/Book%3A_Analytical_Chemistry_2.1_(Harvey)

(made possible by the Analytical Sciences Digital Library)

**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. Statistical analysis and interpretation of data will also be covered. Some topics of quantitative analysis will be covered as well.

**Grades**
Grades will be determined by a point distribution:

| | |
|---|---|
| Exams (100 pts each 4 total) | 400 pts |
| Total | 400 pts |

Grades in this course will be on a straight scale as shown below. A curve may be applied at the end of the term if the professor deems it necessary.

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

**Exams**:
Canvas exams will be given 4 times throughout the semester. The exams will be take home exams and will be open note, ***but you must work alone***. You will have 24hrs to complete the exam. The exams will be posted at midnight on the exam day and close at 11:59 pm the same day. The turn in portal will also open and close at the same time. Exams are a mixture of multiple choice and free response.

**Grading:**
If you believe there was an error in grading, please see myself 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.

**In person activities:**
Throughout the semester there will be in person activities that will be group work. These will cover more challenging topics. Though they will not be graded, they will be very helpful for the exams.

**Attendance**:
You should plan to attend all lectures. Powerpoint lectures may not contain 100% of the information provided in class. If you know you will be absent due to sporting events, family matters, religious obligations, etc. please let me know as soon as possible. If you are sick and will not be able to take your exam during the allotted time, please inform me by email and if possible, 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. If you are not feeling well, stay home and rest up.

**Classroom Accommodations:**
Students needing classroom accommodations must first register with the Dean of Students office. The DSO will provide documentation to the student who must then provide this documentation to me when requesting the accommodation.

**Canvas:**
All lectures, grades, practice exams and other files will be posted to Canvas. Lecture powerpoints will be posted under “Files”

**Academic Honesty**:

The Honor Code (https://sccr.dso.ufl.edu/process/student-honor-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 or TAs in this class.

You are required to abide by the Student Honor Code. Any violation of the academic integrity expected of you will result in a minimum academic sanction of a zero on the exam. Any alleged violations of the Student Honor Code will result in a referral to Student Conduct and Conflict Resolution. Please review the Student Honor Code and Student Conduct Code at https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code

## (Very)Tentative Schedule

| Date | Topic |
|---|---|
| 5/13 | Introduction, Course Overview |
| 5/14 | Basics in Analytical Chemistry |
| 5/16 | Fundamentals of Spectroscopy |
| 5/20 | Fundamentals of Spectroscopy |
| 5/21 | Spectroscopic Instrumentation |
| 5/23 | Spectroscopic Instrumentation |
| 5/27 | Atomic Spectroscopy |
| 5/28 | Atomic Spectroscopy |
| 5/30 | Review |
| 6/3 | Exam 1 |
| 6/4 | UV-Vis Spectroscopy |
| 6/6 | UV-Vis Spectroscopy |
| 6/10 | Luminescence Spectroscopy |
| 6/11 | IR Spectroscopy |
| 6/13 | Applications of Spectroscopy (ELISA) |
| 6/17 | Review |
| 6/18 | Exam 2 |
| 6/20 | No class |
| 6/23 | Summer Break |
| 6/24 | Summer Break |
| 6/27 | Summer Break |
| 7/1 | Fundamentals of Electrochemistry |
| 7/2 | Potentiometry |
| 7/4 | No Class, Independence Day |
| 7/8 | Potentiometry |
| 7/9 | Voltammetry |
| 7/11 | Voltammetry |
| 7/15 | Applications of Electrochemistry |
| 7/16 | Review |
| 7/18 | Exam 3 |
| 7/22 | Fundamentals of Separations |
| 7/23 | Fundamentals of Separations |
| 7/25 | Liquid Chromatography |
| 7/29 | Liquid Chromatography |
| 7/30 | Gas Chromatography |
| 8/1 | Gas Chromatography |
| 8/5 | Review |
| 8/6 | Exam 4 |
| 8/9 | |