UI Indigenous Land Acknowledgement ([Link to video](#))

The University of Iowa is located on the homelands of the Ojibwe/Anishinaabe (Chippewa), Báxoje (Iowa), Kiikapoi (Kickapoo), Omãëñomenêwak (Menominee), Myaamiaki (Miami), Nutchi (Missouri), Umo"ho" (Omaha), Wahzhazhe (Osage), Jiwere (Otoe), Odawaa (Ottawa), Pó"ka (Ponca), Bodéwadmi/Neshnabé (Potawatomi), Meskwaki/Nemahahaki/Sakiwaki (Sac and Fox), Dakota/Lakota/Nakoda, Sahnish/Nuxbaaga/Nuweta (Three Affiliated Tribes) and Ho-Chunk (Winnebago) Nations. The following tribal nations, Umo"ho" (Omaha Tribe of Nebraska and Iowa), Pó"ka (Ponca Tribe of Nebraska), Meskwaki (Sac and Fox of the Mississippi in Iowa), and Ho-Chunk (Winnebago Tribe of Nebraska) Nations continue to thrive in the State of Iowa and we continue to acknowledge them. As an academic institution, it is our responsibility to acknowledge the sovereignty and the traditional territories of these tribal nations, and the treaties that were used to remove these tribal nations, and the histories of dispossession that have allowed for the growth of this institution since 1847. Consistent with the University's commitment to Diversity, Equity and Inclusion, understanding the historical and current experiences of Native peoples will help inform the work we do; collectively as a university to engage in building relationships through academic scholarship, collaborative partnerships, community service, enrollment and retention efforts acknowledging our past, our present and future Native Nations. ([Link to Learn More About the Land Acknowledgement and our Native Nations](#))

I. Logistics

<table>
<thead>
<tr>
<th>Faculty Instructor</th>
<th>Professor Stone (she/her; <a href="mailto:betsy-stone@uiowa.edu">betsy-stone@uiowa.edu</a>)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Professor, Department of Chemistry</td>
</tr>
<tr>
<td></td>
<td>Chemistry Building, W313 CB, (319) 384-1863</td>
</tr>
<tr>
<td></td>
<td>Office hours: On Zoom Mondays 9:00-10:00am, Tuesdays 11:00am-12:00pm, Thursdays 10:00-11:00am, and by appointment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teaching Assistants (TAs)</th>
<th>Eric Bruening (<a href="mailto:eric-bruening@uiowa.edu">eric-bruening@uiowa.edu</a>)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Graduate Teaching Assistant, Department of Chemistry, Office hours: E208 CB (in person) on Mondays 11:30am - 12:30pm and Wednesdays 6:30-7:30pm</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Charles Izuchukwu Ezekiel (<a href="mailto:charles-ezekiel@uiowa.edu">charles-ezekiel@uiowa.edu</a>)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Teaching Assistant, Department of Chemistry, Office hours: E208 CB (in person) on Tuesdays 1:00-2:00pm and Thursdays 2:30-3:30pm</td>
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</table>

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Pomerantz Center, C10 PC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location/Time</td>
<td>Mondays and Wednesdays 1:30 – 2:20pm</td>
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</table>

<table>
<thead>
<tr>
<th>Laboratory</th>
<th>Chemistry Building E440</th>
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</thead>
<tbody>
<tr>
<td>Location/Time</td>
<td>Mondays and Wednesdays 2:30 – 5:20pm</td>
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</table>
II. Course Matters

Course Objective

The goal of this course is for students to learn how to make fundamental analytical measurements in the laboratory. The course will emphasize measurement theory, practical skills, and laboratory safety. Course objectives include volumetric analysis, spectrophotometry, chromatographic separations, mass spectrometry, standardization, calibration, error analysis, hypothesis testing, modeling, graphical representation, and discussion of results.

Course Structure

The course is divided into lecture and laboratory sections. Lectures will cover the basic principles of the experiments, statistics, and data analysis. Eleven laboratory experiments will provide a practical setting to safely conduct experiments and analyze data. Two experiments will involve on-campus field work. Initially, the course material will focus on general procedures for analyzing and presenting data along with learning laboratory skills. The course structure may be adapted at the discretion of the lead instructor as needed.

Textbook

Quantitative Chemical Analysis, 9th edition (2016); Daniel C. Harris, W. H. Freeman & Co. (Note: The 7th or 8th editions may also be used, but students must refer to the 9th edition for the correct sections.)

Course website

http://icon.uiowa.edu

Policy on Class Attendance

Students are required to attend all lectures and laboratory sessions and to be on time. Students must attend lecture prior to entering the laboratory. Arriving late to laboratory sessions is not permitted. At the discretion of the instructor, lectures will be broadcast over Zoom and/or recorded and posted on the course website.

In the case of an excusable absence (e.g. illness, mandatory religious obligation, certain University activities, or unavoidable circumstances), a completed Explanatory Statement of Absence form must be provided to the instructor in advance of foreseeable absences or within 72 hours of unforeseeable absences. Missed laboratory sessions can be made up only if the absence is excused. Students testing positive for COVID-19 should self-report.

Zoom Link for access to lectures

Zoom Meeting for CHEM:2021 Lectures
Meeting ID: 927 2675 4443
Passcode: chemistry
+13126266799,,92726754443# US (Chicago)
III. Grading

Letter Grades

- **A range**: 90-100%
- **B range**: 80-90%
- **C range**: 70-80%
- **D range**: 60-70%
- **F range**: < 60%

The lower limits for letter grades may be adjusted, but will never be raised. For example, the A range for final grades may be 88-100%, but will not be 95-100%. Plus or minus grades will be appended to letter grades. The grade of A+ is reserved for rare and extraordinary academic achievements.

<table>
<thead>
<tr>
<th>Qty.</th>
<th>Grade Item</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Safety training</td>
<td>25</td>
</tr>
<tr>
<td>10</td>
<td>Safety quizzes (5 points each experiment, beginning with experiment #2)</td>
<td>50</td>
</tr>
<tr>
<td>11</td>
<td>Notebook preparation, hazard assessment; 10 points each experiment</td>
<td>110</td>
</tr>
<tr>
<td>11</td>
<td>Laboratory performance (safety, preparedness, data recording and sharing (as assigned), cleanup, chemical and waste handling, etc.); 10 points each experiment</td>
<td>110</td>
</tr>
<tr>
<td>5</td>
<td>Lab practical (25-50 points each)</td>
<td>225</td>
</tr>
<tr>
<td>4</td>
<td>Lab reports (Exp. 1-4, 35 points each)</td>
<td>140</td>
</tr>
<tr>
<td>7</td>
<td>Lab reports (Exp. 5-11, 50 points each, lowest score dropped)</td>
<td>300</td>
</tr>
<tr>
<td>1</td>
<td>Spreadsheet assignment</td>
<td>40</td>
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<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>1000</strong></td>
</tr>
</tbody>
</table>

Late Assignments

Assignments are due at the specified date and time. If no time is indicated, assignments must be submitted on ICON by 11:59 PM on the specified due date. Late assignments will be penalized 5 points per calendar day after this deadline.

Dropbox Submissions

Assignments are to be turned in to the corresponding ICON Dropbox. It is the student’s responsibility to verify that the correct and complete file is uploaded by the due date.

Re-grading

Adjustments to grades will only be considered within one week after an assignment grade has posted. The re-grade request must be made to Prof. Stone and accompanied by a written, detailed description of the grading concern using Regrade Request Form on ICON. Re-grading will involve re-assessment of the entire assignment and may increase or decrease the grade.
Laboratory Notebooks

Each student must maintain a laboratory notebook. Specific instructions for keeping notebooks will be discussed in class and are provided on ICON. Points in the class grade are allocated for the completion of the notebook entries.

Laboratory Performance

Grading criteria for laboratory performance include safety, preparedness, chemical and waste handling, efficiency, cleanup, respectful conduct, effective teamwork, collaboration, etc. Assessment will be conducted through observations and oral examinations.

Lab Reports

A lab report must be completed and turned in for each experiment. Required report contents are detailed at the end of each experiment information package. Reports must be prepared using the Microsoft Excel templates provided. All reports must be submitted via the ICON Dropbox as Excel files. It is the student’s responsibility to ensure that completed assignments are successfully submitted on time; this may be done with an email confirmation.

Lab reports for make-up laboratories will be due either one week from the date the lab was made-up or Monday, May 9, whichever is earlier.

IV. Course Conduct

Overview

All course participants are expected to conduct themselves in manners that uphold the values of health, safety, honesty, respect, and scientific rigor.

Classroom and Laboratory Etiquette

This course brings together people with various backgrounds, training, and experiences. To facilitate a productive classroom experiences and to learn from this wide array of perspectives it is essential to treat each other with respect and to value each other’s opinions. There will be times when people disagree, but debate should be kept to the facts and the merits of the topic and not personal or mean spirited.

Laboratory Safety

Laboratory safety is a primary concern and you will be expected to act in a safe and professional manner. Students are required to follow Department of Chemistry Safety Rules and Guidelines and all instructions from the course instructional team. Failure to meet safety expectations may result in your dismissal from the laboratory session. Repeated violations of safety expectations will result in dismissal from the course.

1. Come to lab prepared! Before coming to lab, attend lecture, carefully read and understand all laboratory procedures, conduct a thorough hazard assessment, and prepare your
laboratory notebook according to the guidelines. Arrive to lab on time to ensure you receive all TA instructions.

2. Students must behave in a professional manner that does not put themselves, classmates, staff, or the instructional team at unnecessary risk.

3. Safety goggles must be worn at all times. Masks should be worn to reduce viral spread. Additional personal protective equipment (PPE) may be required for certain experiments. Lab coats are optional.

4. Proper laboratory attire is required to protect you from chemical and physical hazards in the laboratory. Skin must be completely covered from shoulders to toes. Clothing must not have holes.
   - Feet must be completely enclosed in the shoe; socks shall not show. Wear shoes that you will be comfortable standing in for several hours.
   - Legs must be completely covered with either long pants or a long skirt. Leggings are discouraged, as they provide little to no protection against chemical spills.
   - Shoulders and torsos must be completely covered. Ensure that midriffs and backs are completely covered when standing and performing experiments.

5. Report any injury, chemical spill, broken equipment, or other incident to your TA immediately – even if you think it is minor.

6. Enter the laboratory only during your assigned laboratory period and with proper supervision. Do not enter the lab if your TA is not present.

7. Eating, drinking, and smoking are prohibited in the laboratory.

8. Proper disposal of solvents, solids, and sharps is essential for the safety of all. If you are not sure how to dispose of something, ask your TA.

9. Laboratory partners may be assigned at the instructor’s discretion.

10. Instructions from the course instructor, laboratory staff, and TAs must be followed at all times.

**Equipment Policy**

All glassware and other equipment received at the beginning of the semester and assigned your equipment drawer is the responsibility of that student. On the day of check-in, the student must be certain that all the equipment required for the course is in the drawer, the glassware has no chips or cracks and that the equipment is in good working order. The Chemistry Department will replace any glassware or equipment that is defective at the time of check-in. At the end of the semester or at the time the student leaves the course, every piece of glassware and equipment must be returned to the Department without chips or cracks and in good working order. All
pieces of glassware or equipment that are missing, broken, or not in good working order will be charged to the student through the University billing system.

**Technology**

Each student will have access to computers in the departmental computer facility, which is located in W241 CB.

The use of cell phones and the internet during class times is prohibited. All personal devices must be silenced prior to the start of class and stowed in backpacks during laboratory.

**Policy on Academic Honesty**

All graded work must be your own.

Some laboratory experiments will be performed in groups of two. In this case, data will be collected collaboratively and the collected data will be shared among group members. Beyond the data collected, each student should prepare their own lab report, including all calculations, graphs, and discussion.

Students are permitted and encouraged to discuss general procedures for data analysis, use of Excel, and general questions about the procedures and specific data collected. However, this should be done in the context of completing your own work. Here are some examples:

**Example 1:** Student A asks student B: “Can you describe how to change the size of the symbols on my plot?” *This type of collaboration is allowed and encouraged.*

**Example 2:** Student A asks student B: “Can I get a copy of your spreadsheet so that I can check my answers?” *This type of collaboration is not allowed.*

**Example 3:** Student A asks student B: “What formula did you use to answer Question 2 on the lab report?” *This type of collaboration is not allowed. This type of question should be discussed with the teaching assistant or the instructor.*

In grading the assignments and lab reports, the instructors will be looking for evidence of improper collaboration. If such evidence is found, all parties involved will receive no credit for the assignment and will be reported to the College of Liberal Arts and Sciences.

Any questions regarding what constitutes honest behavior in this source should be directed to the instructor.
V. Additional Academic and Other Resources

Chemistry Center  The Chemistry Center (for issues related to course registration)
Chemistry Building E225
(319) 335-1341

Departmental Executive Officer (DEO)
Leonard MacGillivray
Chemistry Building E331
(319) 335-1350

Academic Resources
The University of Iowa Libraries (to access e-books and journal holdings), https://www.lib.uiowa.edu/

The Writing Center (for written document review and individualized instruction), https://writingcenter.uiowa.edu/un

Tutor Iowa (to learn about academic support options)

The Speaking Center (for individualized instruction in oral communication), https://speakingcenter.uiowa.edu/

Career Resources
The Graduate College (for financial assistance and funding opportunities, professional development, career planning, and one-on-one counseling through graduate success appointments)

Pomerantz Career Center (for leadership and career advancement at the undergraduate level)

Other Resources
Office of the Dean of Students Master Resource List (includes resources for emergency situations, mental health, sexual misconduct, illness/injury, academic issues, legal assistance, and other resources)

Office of Student Financial Aid (for information about financing your education)

Student Care & Assistance (for students experiencing crises)

Student Support Initiatives (Student Emergency Fund, Trans Student Support Fund, Safe Room Program).
ATTENDANCE AND CLASSROOM EXPECTATIONS

Students are responsible for attending class and for knowing an instructor’s attendance policies, which vary by course and content area. All students are expected to attend class and to contribute to its learning environment in part by complying with University policies and directives regarding appropriate classroom behavior or other matters.

ABSENCES

Students are responsible for communicating with instructors as soon they know that an absence might occur or as soon as possible in the case of an illness or an unavoidable circumstance. Students can use the CLAS absence form to help communicate with instructors who will decide if the absence is excused or unexcused; the form is located on ICON within the top banner under “Student Tools.” Delays by students in communication with an instructor could result in a forfeit of what otherwise might be an excused absence (https://clas.uiowa.edu/students/handbook/attendance-absences).

ABSENCES: ILLNESS, UNAVOIDABLE CIRCUMSTANCES, AND UNIVERSITY SPONSORED ACTIVITIES

Students who are ill, in an unavoidable circumstance affecting academic work, or who miss class because of a University sponsored activity are allowed by UI policy to make up a missed exam. Documentation is required by the instructor except in the case of a brief illness. Students are responsible for communicating with instructors as soon as the absence is known (https://opsmanual.uiowa.edu/students/absences-class#8.1).

ABSENCES: HOLY DAYS

Reasonable accommodations are allowed for students whose religious holy days coincide with their classroom assignments, tests, and attendance if the student notifies the instructor in writing of any such religious Holy Day conflicts within the first days of the semester and no later than the third week. (See the UI Operations Manual, https://opsmanual.uiowa.edu/students/absences-class#8.2).

ABSENCES: MILITARY SERVICE OBLIGATIONS

Students absent from class due to U.S. veteran or U.S. military service obligations (including military service-related medical appointments, military orders, and National Guard Service obligations) must be excused without penalty. Instructors must make reasonable accommodations to allow students to make-up exams or other work. Students must communicate with their instructors about the expected possibility of missing class as soon as possible. (For more information, see https://opsmanual.uiowa.edu/iv-8-absences-class%C2%A0-0).

ACADEMIC MISCONDUCT

All undergraduates enrolled in courses offered by CLAS have in essence agreed to the College’s Code of Academic Honesty. Academic misconduct affects a student’s grade and is reported to the College which applies an additional sanction, such as suspension. Outcomes about misconduct are communicated through UI email (https://clas.uiowa.edu/students/handbook/academic-fraud-honor-code).

ACADEMIC ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

UI is committed to providing an educational experience that is accessible to all students. A student may request academic accommodations for a disability (such as a mental health, attention, learning, vision, and a physical or health-related condition) through the Student Disability Services (SDS) office. The student is responsible for discussing specific accommodations with the instructor. Note that accommodations are not granted retroactively but from the time of the student’s request to the instructor onward; additionally, accommodations must be requested at least two weeks in advance of the related assignment or exam (https://sds.studentlife.uiowa.edu/).

CLASS RECORDINGS: PRIVACY AND SHARING

Course lectures and discussions are sometimes recorded or live-streamed. These are only available to students registered for the course and the intellectual property of the faculty member. These materials may not be shared or reproduced without the explicit written consent of the instructors. Students may not share these recordings with those who are not enrolled in the course; likewise, students may not upload recordings to any other online environment. Doing so is a breach of the Code of Student Conduct and could be a violation of the Federal Education Rights and Privacy Act (FERPA); also see https://dos.uiowa.edu/policies/code-of-student-life/.
COMMUNICATION: UI EMAIL
Students are responsible for all official correspondences sent to their UI email address (uiowa.edu) and must use this address for any communication with instructors or staff in the UI community (Operations Manual, III.15.2). Emails should be respectful and brief, with complex matters addressed during the instructor’s drop-in hours, for example. Faculty are not expected to answer email after business hours or during the weekends.

COMPLAINTS ABOUT ACADEMIC MATTERS
Students with a complaint about a grade or a related academic issue should first visit with the instructor and then with the course supervisor (if one is assigned), and next with the Chair of the department or program offering the course. If not resolved, students may bring their concerns to the College of Liberal Arts and Sciences: https://clas.uiowa.edu/students/handbook/student-rights-responsibilities.

FINAL EXAMINATION POLICIES
The final exam schedule is published during the fifth week of the fall and spring semesters or on the first day of summer classes; students are responsible for knowing the date, time, and place of their final exams. Students should not make travel plans until knowing this information. A student with exams scheduled on the same day and time or who have more than two final exams on the same day should visit this page for how to resolve these problems by the given deadline: https://registrar.uiowa.edu/makeup-final-examination-policies. No exams may be scheduled the week before finals; some exception, however, have been made for labs, language courses, and off-cycle courses (https://registrar.uiowa.edu/final-examination-scheduling-policies).

FREE SPEECH AND EXPRESSION
The University of Iowa supports and upholds the First Amendment protection of freedom of speech and the principles of academic and artistic freedom. We are committed to open inquiry, vigorous debate, and creative expression inside and outside of the classroom. Visit Free Speech at Iowa for more information on the University's policies on free speech and academic freedom (https://freespeech.uiowa.edu/).

HOME OF THE COURSE
The College of Liberal Arts and Sciences (CLAS) is the home of this course, and CLAS governs the course’s add and drop deadlines, the “second-grade only” option (SG0), and other undergraduate policies and procedures. Different UI colleges may have other policies or deadlines. See https://clas.uiowa.edu/students/handbook. Questions? Contact CLAS at clasps@uiowa.edu or 319-335-2633.

MENTAL HEALTH
Students are encouraged to seek help as a preventive measure or if feeling stressed or overwhelmed. Students should talk to their instructors for guidance with specific class-related concerns and are encouraged to contact University Counseling Service (UCS) at 319-335-7294 during regular business hours to schedule an appointment. UCS offers group and individual therapy as well as counseling for couples about relationships while making referrals to other resources (https://counseling.uiowa.edu/). Student Health can also address related concerns (https://studenthealth.uiowa.edu/). These visits are free to students. After hours, students are encouraged to call the Johnson County Community Crisis Line at (319) 351-0140 or dial 911 in an emergency.

NONDISCRIMINATION IN THE CLASSROOM
The University of Iowa is committed to making the classroom a respectful and inclusive space for people of all gender, sexual, racial, religious, and other identities. Toward this goal, students are invited in MyUI to optionally share the names and pronouns they would like their instructors and advisors to use to address them. The University of Iowa prohibits discrimination and harassment against individuals based on race, class, gender, sexual orientation, national origin, and other identity categories indicated by the University’s Human Rights policy. Contact the Office of Equal Opportunity and Diversity at https://diversity.uiowa.edu/division/office-equal-opportunity-and-diversity-eod.

SEXUAL HARASSMENT
Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff; all members of the UI community are expected to conduct themselves in a manner that maintains an environment free from sexual harassment and sexual misconduct. Those experiencing sexual harassment are strongly encouraged to report the incidents and to seek help (https://osmrc.uiowa.edu/).