

Chemistry 5680
Environmental Chemistry Laboratory
Spring 2022

Time/Location: Mondays 2-5pm, Fridays 2-5pm. ML 144 and other laboratories when specified.

Instructor: Kimberly Hageman *Office:* ML-281 *Phone:* 7-0114 *Email:* kim.hageman@usu.edu

Teaching Assistants:

Jeffery Perala-Dewey *Office:* ML 277 *Email:* jeffrey.peraladewey@usu.edu

Calvin Luu ML 271 *Email:* calvin.luu@usu.edu

Lab Fees: The laboratory fee of \$100 is used to repair and replace equipment, purchase chemicals, supplies, and to support teaching assistants for this course.

Materials: You will receive printed descriptions of laboratory experiments. Also bring to lab: A bound laboratory notebook and your own safety glasses or goggles, laboratory coat, pen, calculator, etc.

Learning Objectives:

- Gain experience with common sampling, sample preparation, and instrumental methods important in environmental chemistry.
- Gain knowledge about pollutant concentrations, sources, and fate in the Cache Valley.
- Apply theory from the associated lecture course to a practical project.

Course Content: This course consists of five set laboratory experiment, plus an independent project.

Set Experiments:

1. Cache Valley air quality and statistics
2. Measuring precise pH of natural waters with spectroscopy
3. Nitrate and nitrite in Cache Valley streams
4. Photolysis of pesticides on leaf surfaces
5. PUF-air partition coefficients of PAHs

Assessment: Course performance will be evaluated from five laboratory reports and three project components (proposal, report, and presentation). Reports will be prepared from data obtained during the laboratory session, calculations, background information, interpretation of results, discussion, and supporting information. Laboratory notebooks will be checked several times during the semester and assessed for completeness and organization.

% of Final Grade	Assignment
50	Lab Reports
10	Project Proposal
25	Project Report
10	Project Presentation
5	Laboratory notebook

Laboratory Reports: Laboratory reports are due **one week** after the laboratory is finished at the start of the lab period, unless otherwise specified.

Projects: The project topic will be selected by students in consultation with the Instructor and TA.

Withdrawal Policy: This course will follow the University policy on withdrawals stated in the current Undergraduate Catalog. Drop dates are listed in the Schedule of Classes.

Absentee and Covid Policy:

- In person lab attendance and participation is mandatory unless your absence has been approved by the instructor before the start of the lab class. If you have an approved absence, you will be given data to use for your lab report.
- See the following website for all current university covid protocols and information: <https://www.usu.edu/covid-19/communications/students>.
- Kindly wear a mask during lab, even if you are vaccinated. Get vaccinated (it is free) if you haven't already done so – vaccine clinics are being held on USU campus in Spring Semester. Register your vaccine status on the AggieHealth website.
- If you feel ill: do not come to lab, contact Dr. Hageman, get a covid test (available free on campus), and fill out the USU covid questionnaire (<https://www.usu.edu/covid-19/questionnaire/index>). The covid CARES team will provide quarantine instructions and they will inform Dr. Hageman about your quarantine start and end dates. Covid-related absences will not be excused if you have not contacted the covid CARES team.
- If you have been in contact with someone with a confirmed case of covid, contact Dr. Hageman and complete the USU covid questionnaire (<https://www.usu.edu/covid-19/questionnaire/index>). Dr. Hageman will be contacted by the covid CARES team if you need to quarantine. The university policy is that if you are fully vaccinated, you do NOT need to quarantine after contact with someone who had covid unless [you have symptoms](#). However, fully vaccinated people should get tested 5-7 days after exposure, even if you don't have symptoms, and wear a mask indoors in public for 14 days following exposure or until your test result is negative.
- We will switch to remote delivery if our class moves into the covid Red Status (i.e. if the USU covid team determines that our class has too many Covid exposures). If this occurs, you will receive data to use for lab reports and/or we will make other arrangements to meet the learning objectives of this course.
- If you are unable to attend a lecture due to a non-covid illness or for another reason, you must contact Dr. Hageman at the earliest date possible to make arrangements and/or to request an extension on an assignment deadline.

Student Disability Statement: Any student with a disability that requires accommodations must contact Dr. Hageman. The disability must be documented by the Disability Resource Center. Course materials may be requested in alternative formats.

University Policy and Procedures: Please see this website (<https://www.usu.edu/provost/faculty-life/syllabus>) for University policies and procedures concerning academic freedom, professional responsibilities, academic integrity, the honor pledge, plagiarism, course fees, grievances, sexual harassment, student disabilities, withdrawal, no-test days, assumption of risk, and mental health.