Chemistry 5680
Environmental Chemistry Laboratory
Spring 2020

_Time/Location:_ Mondays 2-4:50pm, Thursdays 11:30am-2:20pm. ML-144 and various other laboratories.

_Instructor:_ Kimberly Hageman _Office:_ ML-281 _Phone:_ 7-0114 _Email:_ kim.hageman@usu.edu

_Office Hours:_ During the laboratory or meeting by appointment.

_Teaching Assistant:_ Jeffery Perala-Dewey _Office:_ ML-217 _Email:_ jperaladewey@aggiemail.usu.edu

_Materials:_ You will receive printed descriptions of laboratory experiments. Also bring to lab: A bound laboratory notebook; safety glasses or goggles; laboratory coat; pencil, 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. Total mercury in Utah trout by cold vapor atomic absorption spectroscopy
3. Nitrate and nitrite in Cache Valley freshwater
4. Photolysis of neonicotinoid pesticides in solution
5. pH of the Great Salt Lake

_Assessment:_ Course performance will be evaluated based on five laboratory reports, a project report, and a project 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.

<table>
<thead>
<tr>
<th>% of Final Grade</th>
<th>Assignment</th>
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<tbody>
<tr>
<td>50</td>
<td>Lab Reports</td>
</tr>
<tr>
<td>25</td>
<td>Project Report</td>
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<tr>
<td>15</td>
<td>Project Presentation</td>
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<td>10</td>
<td>Laboratory notebook</td>
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The maximum letter grade ranges are: A, 90-100%; B, 80-89%; C, 70-79%; D, 60-69%. Plus (+) and minus (-) grade modifier will be used.

_Laboratory Reports:_ Laboratory reports are due one week after the laboratory is finished at the start of the lab period. The required report format will be outlined with the experiment handouts.

_Projects:_ The project topic will be selected by the student in consultation with the Instructor and TA. Required formats for the report and presentation will be discussed during the lab class.

_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.

**Missed Lab Policy:** Students may be excused from a laboratory in cases of emergency. Documentation must be supplied to be excused. In cases of excused absence, grades will be assigned based on % of adjusted total score. For other absences, late assignments will be penalized 10% of the maximum score per meeting day to a maximum of 50%. No repetition of experiments is permitted once a result is submitted.

**Attendance Policy:** Attendance is mandatory for successful performance in this course.

**Laboratory Fee Statement:** A laboratory fee is required for this course. Laboratory fees for this course are used for the purchase of equipment and supplies for the laboratory.

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

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