

Students will gain an appreciation of the influence of chemistry in the natural, arctic environment and the implications of human-caused perturbations of these systems and potential remediation strategies.

STUDENT LEARNING OUTCOMES

Upon successful completion of this course, students will:

Understand the basic chemical concepts as they relate to the function of ecosystems and the existence/transformation of contaminants.



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will comprise 2 on-campus and 1



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(Due Mondays at 12pm). Discussion posts evaluated on the basis of on



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If you believe you are eligible, please visit their web site (<http://www.uaf.edu/disability/>) or contact a student affairs staff person at your local campus. You can also contact Disability Services on the Fairbanks campus by phone, 907.474.5655, or by e-mail (uaf-disabilityservices@alaska.edu).

VETERAN SUPPORT SERVICES - Walter Crary (wecrary@alaska.edu) is the Veterans Service Officer at the Veterans Resource Center (111 Eielson Building, 474-2475). Fairbanks Vet Center 456-4238. VA Community Based Outpatient Clinic at Ft. Wainwright is 361-6370.

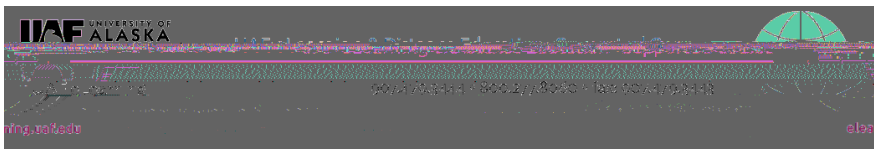


Tentative Lecture and Lab Schedule

Week 1 – Introduction

Reading: Environmental Science, Ch 1-2

Case study:



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Reading: Environmental Monitoring and Characterization, Ch 16 *Available on blackboard*

Case study: PCBs in salmon causing accumulation in spawning lake sediments

Lab 7: Contaminant Partitioning

Contaminant partitioning in the environment

Week 8– Weathering and Soil Formation

Reading: Environmental Science, Ch 19, 23

Case study- How permanent is permafrost?

Lab 8: Weathering and Soil Formation

Rocks into soil

Exploring Alaskan soils

Week 9 – Metals and Inorganic Contaminants

Reading: Environmental Science, Ch 24

Case study – Pebble mine: Tension between mineral recovery, fishing, and community health

Lab 9: Soil Quality and Contamination

- Soil contamination
- Treating acid mine drainage

Week 10 – Environmental Microbiology I

Reading: Environmental Science, Ch 6, Environmental Monitoring and Characterization, Ch 14

Case study: Coliforms in Antarctica

Lab 10: Microbiology of Soils

- Virtual microscope
- Virtual pond dip

Week 11 – Environmental Microbiology II

Reading: Environmental Science, Ch 7

Case study –

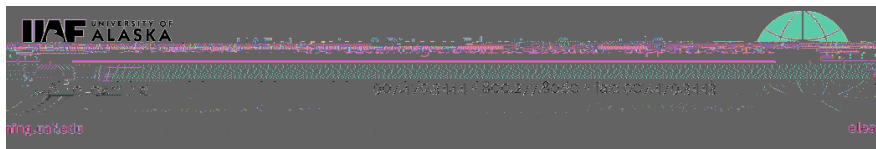


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Tentative Course Schedule

Wk.	Date	Topic	Laboratory
0	Sept 4	Introduction to the course	No lab



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