Fall 9-1-2000

GEOL 431.01: Environmental Geochemistry

Johnnie N. Moore

University of Montana - Missoula, johnnie.moore@umontana.edu

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Geology 431 - Environmental Geochemistry

<table>
<thead>
<tr>
<th>Lecture Tues. &amp; Thurs.</th>
<th>13:10-14:30PM</th>
<th>Room SC 304</th>
<th>Instructor: J. N. Moore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office SC 307;</td>
<td>Phone: 243-6807</td>
<td>e-mail: <a href="mailto:gl_jnm@selway.umt.edu">gl_jnm@selway.umt.edu</a></td>
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<tr>
<td>Office Hours:</td>
<td>Mon. 14:10-15:00 or by appointment</td>
<td>Tues. 14:30-15:30</td>
<td>Thurs. 14:30-15:30</td>
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Grading

Two Take-home Exams @ 25% each for 50%
Final Take Home Exam 40%
Problem sets and other assignments 10%

Preliminary Schedule

(this schedule may be changed to better accommodate our progress in these and other topics)

Date Lecture Topics
9/5 Introduction and metal contamination of natural systems.
9/7 No class, reading assignment for discussion on 9/12.
9/12 Chemical Fundamentals I.
9/14 Chemical Fundamentals II.
9/19 Chemical Reaction Types.
9/21 Sedimentology and Measuring Metals in Sediments.
9/26 Grain Size Controls.
9/28 Geochemical classification and Eh-pH diagrams.
10/3 Eh-pH diagrams II.
10/5 Classes of Geochemical Environments.
10/10 Geochemical environments.
10/12 EXAM
10/17 Mining-derived Contamination
10/19 Mining-derived Contamination
10/24 Mining-derived Contamination
10/26 Photosynthesis-linked Periodic Variations
10/31 Metal Toxicity
11/2 Metal toxicity
11/7 Election day holiday, no class.
11/9 Sediment toxicity
11/16 EXAM Geological Society of America Meeting, no class.
11/21 EXAM Geological Society of America Meeting, no class.
11/16 Arsenic Contamination from natural Sources
11/21 Biomethylation
11/23 Determining Geochemical Background
11/28 Determining Geochemical Background
11/30 Pit Lakes
12/5 Pit Lakes
12/7 Catch Up Time
12/12 Review
12/14 Final Exam handed out.
12/19 Finals week. Final Exam due Thursday, 12/21 at 15:30

* Many of these lectures will be modified from those used in previous classes. Those lectures are at the following link: LECTURES

**Readings will be posted in envelope outside my office door or on the G431 web site.