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# GEOL 320.01: Global Water Cycle

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### Geology 320 Global Water Cycle Fall 2002

Nancy W. Hinman TTh 4:10 - 5:40 nhinman@selway.umt.edu SC 353 243-5277

**Office Hours:** 1:00 – 3:00 Tuesday, 1:30 – 3:30 Wednesday

**Objective:** This course provides a broad introduction to the chemistry of different water reservoirs (e.g., atmosphere, groundwater, seawater) in the hydrological cycle. Little chemical background is required for this course because it uses compounds merely as tracers through the hydrological cycle. Any chemical concepts are introduced and thoroughly discussed as needed. The prerequisite is one semester of college chemistry.

**Evaluation:** Students are evaluated on in-class, group and take-home assignments and class participation. Tests are used to document learning. Most tests are in-class, closed or open book tests.

**Expectations:** At the end of the semester, students are expected to have a general understanding of how water picks up chemical attributes, as it moves through the hydrological cycle. Students will not become experts in any one topic but will have some basis from which to continue studies.

**Approach:** My general approach involves the description of chemical attributes of different reservoirs of the hydrological cycle with some discussion of how changes occur as water moves from one to the next reservoir.

**Field Trip:** This course has a field trip associated with it. Students must attend the field trip or prepare a significant review paper on a topic of my choosing.

Week	Topic
9/3, 5	Hydrological cycle, energy cycling
9/10, 12	Air chemistry
9/17, 19	Ozone, aerosols
9/24, 26	Ran and atmospheric chemistry Last Day to Receive a Refund for Classes Dropped, 9/24
10/1, 3	Gases in rain
10/8, 10	Review, exam Thursday

- 10/15, 1710/15 no class, Chemical weathering,<br/>Last Day to Drop/Add Classes,<br/>Change Sections, or Change Grading Options, 10/15
- 10/22, 24 Groundwater chemistry
- 10/29, 31 River chemistry
- 11/5, 7 Nutrients in river water
- 11/12, 14 Lake chemistry
- 11/19, 21 Estuarine chemistry
- 11/26 Ocean chemistry
- 12/3, 5 Ocean chemistry
- 12/10, 12 Ocean chemistry
- 12/17 **Final Exam, 3:20 5:20 PM**