

UNIVERSITY OF NEVADA LAS VEGAS
GEOLOGY 475/675 - HYDROGEOCHEMISTRY (3 Credits)

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COURSE DESCRIPTION

Principles of aquatic geochemistry such as chemical thermodynamics, tableaux, and oxidation reduction and environmental organic geochemistry such as physicochemical properties of organic compounds and air/water/soil exchange of organic compounds for environmental studies. The course will provide concepts for practical environmental problems, geochemical modeling, and contaminant transport.

COURSE OBJECTIVES

Geologists and environmental scientists are increasingly involved in geochemical investigations for environmental consulting firms, state and federal regulatory agencies, and the chemical industry. Main objectives of this course are to introduce the principles and concepts of aquatic geochemistry and environmental organic geochemistry and to learn how to design, implement, and evaluate hydrogeochemistry monitoring programs as part of an overall hydrogeologic site assessment and characterization.

TEXTS

Principles and Applications of Aquatic Chemistry by Morel and Hering, Wiley, New York, 1993.

Additional suggested texts:

Environmental Organic Chemistry by Schwarzenbach et al., Wiley, New York, 1993.

Physical and Chemical Hydrogeology by Domenico and Schwartz, Wiley, New York, 1998.

OFFICE HOURS

Wednesday 1:00 – 2:30 pm or by appointment.

GRADING

Bi-weekly homework sets	40%
Term project	10% (only for graduate students)
Midterms	30%
Final Exam	20%

Different grading system will be used for undergraduate and graduate students accordingly and a term project is required for graduate students.