

GEOLOGY 625 (*Quantitative Geochemistry Laboratory*) SYLLABUS

Idaho State University
Fall Semester, 2006

Lecture: PS 215: Wednesday, 9:00 – 10:45 a.m.

Lab: PS 215; PSC 350: 10:00 - noon, and other times TBA

Instructors: Mike McCurry, PS 225, 282-3960, mccumich@isu.edu
Scott Hughes, PS 235, 282-3365 or 4387, hughscot@isu.edu
LEG Lab Phone Number: x2344

Office Hours: Open

Text: Miscellaneous readings will be assigned from a variety of textbooks and journals. Readings will be posted as pdf files to the class folder on Glacier server. If pdf's are not available, hard copies will be placed in a class folder in the 'reading room'.

A term project is required which will cover a scientific problem and involve sampling, geochemical analysis, and data presentation and interpretation. Lab and homework exercises will be assigned semi-weekly until term projects are well under way. A working knowledge of computer systems, chemistry, and mathematics (through advanced algebra or calculus) is essential.

Attendance Policy: Attendance is required during formal lecture hours. If you must be absent please contact Drs. McCurry or Hughes in advance.

Students with disabilities who wish to have accommodations provided by the university must self identify. Contact the ADA and Disabilities Resource Center in the Pond Student Union Building 282-3599.

Grading:	POINTS
Lab and Homework Exercises	200
Midterm Exam	100
Final Exam	100
Term Project	200
TOTAL POINTS	600

Course Objectives

This course will focus on the applied analytical aspects of quantitative geochemistry and petrology. The principal objectives are as follows:

1. Survey analytical tools available for characterization and analysis of earth materials.
2. Training for operation of methods available in the ISU Laboratory for Environmental Geochemistry
3. Understand basic principles of the methods.
4. Understand methods of sampling, and sample preparation.
5. Understand key aspects of related data presentation, analysis and interpretation.

Tentative class schedule:

Week	Date	Subject
1	Aug 22-25	Introduction; Sampling and sample prep.; Lab protocols and safety
2-5	Aug 30 - Sep 22	Neutron activation analysis
6	Sep 27	Guest lecture (Mike and Scott gone)
6-8	Sep 29 - Oct 13	ICP-AES and other atomic spectroscopy techniques (e.g. ICP-MS)
9	Oct 18	Review
9	Oct 20	Exam
10-12	Oct 25-10	X-ray diffraction
13-16	Nov 15 - Dec 6	Other analytical techniques
16	Dec 8	Review; presentations of term projects
17	Dec 11	Final Exam (THURS 10:00am - noon in PS 221)
