

## Geos 225 - Class and Lab Schedule Spring 2008

**Classes:** Tuesday 2:00 - 3:00, meets in Room 235 or 316 (with local outside work).

**Labs:** Tuesday 3:15 - 6:15, meet in Room 225 or 316 (with fieldtrips and other outside work).

**Instructors:** Bill Witte, fnwkw@uaf.edu, Rm. 308, 474-7809 & Rainer Newberry, ffrn@uaf.edu, Rm. 328 474-6895

**TA:** Jake Mongrain, Rm 341, x 5123, ftjrm@uaf.edu

Lab Exercises will take a full 4 hours and build on the class lecture; **PLAN ON BEING ON TIME & READY TO LEARN AT 2:00 pm!!** Labs are due on the Tuesday one week after assignment.

	Reading*	Class Topics-Tues 2 to 3 pm	Lab Exercises-Tues 3:15 to 6:15pm
Week 1 Jan 29	none	Class overview and mechanics; Computer Lab Basics: Logging On/Off, Printers, Users' Folders, Standard WinXP Desktop. <b>B&amp;R</b>	<b>Lab 01:</b> Basic Desktop, UAF computer services: email, phone/email directories, Geology resources on internet, UAF Library resources. Getting & sending data via email or internet: Zip, Data downloading. <b>B</b>
Week 2 Febr 5	80-83	MS Excel overview, parsing, simple graphs. Review of Lab 1 (as needed). <b>B</b>	<b>Lab 02:</b> MS Excel overview, parsing, more complicated graphics, math functions. <b>B</b>
Week 3 Febr 12	6-23	Map projections, coordinate systems, magnetic declination. <b>R&amp;B</b>	<b>Lab 03:</b> Map coordinate systems, conversions. <b>R&amp;B</b>
Week 4 Feb 19	23-26,73-78	Rock & mineral field identification strategies. <b>R</b>	<b>Lab 04:</b> Review of Rock hand specimen identification. <b>R</b>
Week 5 Feb 26	4-6, 46-52, 79	Basics of mapping, meaning of s/d & d/p, 'recording conventions'. <b>R</b>	<b>Lab 05:</b> Rm. 235 mapping: estimating strike & dip by clinometer. <b>R&amp;B</b>
Week 6 Mar 4	112-128	Intro to Geographic Information Systems, geo-data collection, and mapping. <b>B</b>	<b>Lab 06:</b> Rm. 235 Geologic Map in ArcGIS. <b>B</b>
Mar 10		Spring Break	Spring Break
Week 7 Mar 18	68-72	Field safety & field preparation. <b>B</b>	<b>Lab 07:</b> Plotting & interpreting Geophysical data in ArcGIS <b>B</b>
Week 8 Mar 25	87-97	Intro to Adobe Illustrator <b>B</b>	<b>Lab 08:</b> Geologic cross-sections in Adobe Illustrator <b>B</b>
Week 9 Apr 1	27-37	Geologic Maps & Intro to Lab 9. <b>R</b>	<b>Lab 09:</b> Pacing, map location, and mapping planar features—S of NatSci <b>R&amp;B</b>
Week 10 Apr 8	58-68	Intro to Geophysical tools & mapping <b>B&amp;R</b>	<b>Lab 10:</b> Geophysics & mapping in the Goldstream area. <b>B&amp;R</b>
Week 11 Apr 15	37-46, 56-58	Linear elements, geology & topography, general mapping strategies <b>R</b>	<b>Lab 11:</b> Map location & measuring data on real stuff exercise, Baylor Quarry area. <b>R&amp;B</b>
Week 12 Apr 22	53-56	Orientation for lab 12. <b>R</b>	<b>Lab 12:</b> Detailed Geo-Map of Beacon Bald. <b>R&amp;B</b>
Week 13 Apr 29	Review everything	Orientation for lab 13. <b>R</b>	<b>Lab 13:</b> Geologic map of Approach Hill area. <b>R&amp;B</b>

\* All readings are from the Geos 225 'Compendium' provided at no additional charge!!!

(B means Bill's in charge; R means Rainer's in charge; B & R or R & B means sub-equally culpable)

Grades will be based on Lab Exercises, occasional homework, and a final project. Lab exercises are due one week after they are assigned. We will submit an 'instructor-designated drop' if you are missing 2 or more assignments on or after the 5th week of classes (Feb 22, 2008). More rules & such on the next pages...

## Geos 225 Spring 2008, cont.

**Course Description:** Basic field methods, including field notes, topographic maps, measurement of structural elements, field safety, illustration, field mapping and the use of GPS for field work are discussed and practiced. Use of computers for processing geologic field data and analytical data, and integration of field data into a simple Geographic Information System (GIS). Computers are used for the production of reports and technical illustration. This course will fulfill the department requirement for computer literacy. (Prerequisite: GEOS 101X.)

**Student Learning Outcomes:** By actively participating in this course you will become proficient at:

1. Navigating the Windows Desktop, connecting to remote computers to access data.
2. Simple formula entry and geologic data manipulation in MS Excel.
3. Constructing simple geologic diagrams in Adobe Illustrator.
4. Plotting digital GPS locations on a USGS basemap and interpreting in a GIS.
5. Identifying common rock types and geologic structures in field settings.
6. Using a Silva and Brunton Compass for field measurements and a hand-held GPS unit to locate observations.
7. Identifying locations on topographic maps through topography and geographic coordinates.
8. Recording field geologic data through field notes and field geologic maps.

**Instructional Methods:** This course is primarily about how to do....stuff. The lectures, occasional homework exercises, and accompanying notes are to better prepare you to efficiently use your time in lab to learn and practice these skills. Where possible, Lab exercises will be given out with lecture on Friday to also help you prepare for the lab on Tuesday. Written assignments accompanying the lab are due a week after the lab exercise. It is vital to complete the weekly lab exercises, as it is essentially impossible to learn the course material without doing so. **It is difficult to catch up if you fall behind in the labs!!!** And since the course topics are broadly cumulative, lack of understanding of one topic will make it very difficult to progress to the next.

**Course Policies:** Naturally, we would like you to attend class and to show up on time!! If you know you will miss a class let us know IN ADVANCE and we will try to arrange a way to make up the material. *As routine completion of laboratory exercises is essential to understanding the material in this course, we will submit an instructor-designated drop if you are missing more than 2 lab assignments after the 5<sup>th</sup> or 9<sup>th</sup> week of classes (5pm on Feb 22 and 4 pm on Mar. 28).* **We encourage students to work together—but we want you to be sure to do your own work and not copy from other students.**

## Geos 225 Spring '08, continued

**Evaluation:** We reserve the right to dock points for severely late lab assignments.

Student grades in the class reflect the degree to which student learning outcomes have been achieved. Overall class grade based on: **Weekly lab write-ups = 70%, Occasional homework/prelab exercises= 10%, Final project = 20%.** Final grades will be normalized to the highest point total among students in the class. A point total within 90% of this will be an 'A'; within 80% = 'B'; within 70% = 'C', within 60% = 'D', < 60% = 'F'. '+' and '-' grades will be awarded for scores within 2% of 90,80,70,60; e.g., 92% = A-, 88% = B+.

**Final Project:** *For the final project you will pick one of your previous mapping exercises (labs 11, 12 or 13) and from it prepare a complete map in Adobe Illustrator format, accompanied by Unit Descriptions in Microsoft word and your original field notes. This project will represent both the culmination of all the various skills you've learned and an attractive piece of refrigerator art!!!*

**Support Services:** In several labs we will expect you to be able to perform simple algebraic and geometric manipulations. If you have difficulty with such we encourage you to take advantage of the math lab facilities.

**Disabilities Services:** The Office of Disability Services implements the Americans with Disabilities Act (ADA), and insures that UAF students have equal access to the campus and course materials. UAF is committed to equal opportunity for all students. If you have a documented disability, please let us know within the first two weeks of class, and we will work with the Office of Disabilities Services to make the appropriate accommodation. Please let us know early on if you have a physical disability that will restrict your ability to perform field work. We have accommodated a student in a wheelchair and can modify exercises, but need time to plan for such. If you have a specific undocumented physical, psychiatric or learning disability, you will benefit greatly by providing documentation of your disability to Disability Services in the Center for Health and Counseling, 474-7043, TTY 474-7045.