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GEO 231.01: Geoscience Field Methods

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GEO 231 Geoscience Field Methods

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Autumn 2013

Office Hours: 10 Mon, Wed; 11 Fri

This course introduces basic field methods used by geoscientists to collect, process and interpret data concerning rock formations, structures, and landforms. Each Tuesday we will go into the field to make observations and gather data. Weekly assignments will be due the following Tuesday. Grades are based on assignments, and each assignment has equal worth. After snow comes, we will have classroom sessions and assignments.

Much of the class work will be done in the field. A good, waterproof field book is required. Each week, we will collect and grade your field book. You will be expected to take good, legible, and coherent field notes. Reference materials are available on the internet.

Approximate schedule of field trips:

- Sep 3 Alberton – Measure and describe Belt strata.
- 10 Rattler Gulch – Traverse vertical section of Paleozoic strata. Reading, interpreting, and locating on geologic map.
- 17 Rattler Gulch - Structural traverse of syncline. Making structural cross-section.
- 24 Rainbow Bend – Measure structural features. Collecting structural data on bedding, fractures, and faults using Brunton compass. Stereonet presentation of data.
- Oct 1 Bearmouth – Map volcanic units. Describing volcanic units and determining their thickness on pace and compass/GPS traverse. Plot on GIS base.
- 8 Bass Creek – Metamorphic fabrics *Campus* –
- 15 French Town - Cenozoic sediments and structures, landslide.
- 22 Campus – Groundwater. Interpreting landforms and making cross-section using Total Station surveying equipment.
- 29 GSA
- Nov 5 Kim Williams Trail. Measuring and describing stratigraphic section using tape and compass. Graphical presentation of stratigraphic section.

Nov 12 –Dec 3 Classroom