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GEOL 130.01: Geology Field Methods

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G130 Syllabus 2001

Instructor: Marc Hendrix

(SC331; phone 5278; email = marc@selway.umt.edu)

This course is designed to acquaint you with the examination, analysis, and documentation of geology in the field and the use of maps as repositories of geologic information. Our normal class schedule will entail one hour Thursday afternoon meetings and Saturday outings from 9AM-5PM or 9AM-1PM. (Note that the class schedule incorrectly indicates 8AM Saturday meeting time.)

The whole point of this class is to learn about field geology. Therefore each of the Saturday outings is required. We will take attendance during each of our field trips; failing to show for any of the field trips will adversely affect your grade.

Each week, a field exercise will be assigned that will be collected the following Saturday. For most of these exercises, you will be encouraged to work in teams, in order to develop your interpersonal working skills. Unless otherwise indicated, each team can turn in a single assignment.

Your final grade will be based on the following: 1) attendance of each Saturday outing (10% of final grade); 2) Saturday field exercises (80% of final grade); 3) final exam (20% of final grade).

Below is our tentative schedule for the semester.

<u>Date</u>	<u>Topic</u>
February 14	Geology of Missoula; intro to GPS
February 16	Geology of campus – Missoula aquifer exercise; GPS precision exercise (9AM-1PM)
February 21	Introduction to making maps
February 23	Making a map of campus using the pace and compass method (9AM-1PM)
February 28	Introduction to total station mapping
March 2	Mapping with total stations, week 1 (9AM-1PM)
March 7	Continued work with total stations
March 9	Mapping with total stations, week 2 (9AM-1PM)
March 28	Continued work with total stations, introduction to sedimentologic analysis
March 30	Turah Bar exercise (Clark Fork River, 9AM-5PM)
April 4	Sedimentary geology – observations and measurements

April 6	Sedimentary geology of Drummond and Garrison areas (9AM-2PM)
April 11	Basic structural geology
April 13	Structural geologic map and cross-section through Drummond area (9AM-5PM)
April 18	Igneous and metamorphic geology
April 20	Sedimentation and tectonics of the Bitterroot and Missoula Valleys (9AM-5PM)
April 25	Geologic map review
April 27	Geologic mapping of the Arlee Valley (9AM-5PM)
May 2	Structural and metamorphic facies maps
May 4	Igneous, metamorphic, and structural geology of the Garnet Stock (9AM-5PM)
May 15	Final Exam, 8:00-10:00, SC304