The Geology of Colorado
Geol 172, Spring/Summer 2012

Class Meeting time: Monday 5:10–6:00 PM
See class calendar for class outline and reading assignments.

Tentative Field Trip Dates: Three weeks in August 2012, leaving ~Friday Aug 3rd, returning ~ Friday Aug 24th.

Instructor:
Stephen Wright, Room 208 Delehanty, 656-4479, e-mail: swright@uvm.edu

Teaching Assistant:
Ben DeJong, Grad Office (Room 314 Delehanty, 6-3398), Benjamin.Dejong@uvm.edu

Books and Maps:
Tweto, O., 1979, Geologic Map of Colorado, 1:500,000, published by the U.S.G.S.

I will occasionally use journal articles to supplement the reading from the book.

Class/Field Materials
I have prepared a list of gear that you will need for the trip this summer and will review this during class. I’m handing this out now to give you time to accumulate gear that you don’t presently own.
Listed below are items that you will need for the class:
Field/Class Notebooks
You will be accumulating notes during both the class and the field trip this summer. During the summer it will be very useful to have access to the notes you’ve taken during the class. Students in past classes have transcribed their class notes into their field notebooks or have cut and pasted critical class handouts into their field notebooks. For the field trip I ask that you keep all of your notes in a hard-cover field notebook (we’ll show you examples that work well). Put your names in these and make them distinctive. Much of your grade for the field part of this course will come from my evaluation of your notebook, both during and after the field trip. I will provide guidelines to assist you in keeping careful notes once we are in the field.

Course Objectives:
More than anything else, it is my hope that you will come away from this course understanding how to begin “Reading the Landscape,” making careful observations that allow you to understand the geologic architecture and history of an area. Specifically:
1) We will spend time learning to recognize and describe the different types of rocks and surficial materials that occur in Colorado. I hope you will become familiar with a wide variety of different types of rocks.
2) I want you to learn how to “see” the geometry of rocks relative to one another and to Earth’s surface. Part of this is learning how to measure and record fundamental geometrical elements (structures) occurring in these rocks and to record these measurements in your notebook and on maps.
3) I want you to recognize a variety of different types of geologic landforms and to recognize (1) the connection between the geometry of the rocks and geometry of the landforms produced and (2) the role of bedrock structures, weathering, erosion, and glacial processes in producing these landforms.
4) I want you to be able to interpret geologic processes and geologic history based on what you can see in the rocks and their relationship to one another. Everything we do will be specific to the geology of Colorado, but these same skills can be used anywhere.
Class Dynamics
Unlike most other UVM classes, you will be living and working outside with Ben and me and your classmates for 3 weeks. This and the fact that we, as a group, represent UVM as we travel through Colorado means that we have responsibilities that extend beyond those of other classes. For a trip like this to work well, it’s critical that that each one of us respect the others around us. This translates to day-to-day courtesy, to respecting differences in beliefs and values, and to remaining open to new ideas (especially about food!). Furthermore, it means helping each other intellectually, emotionally, and physically as much as we are able and communicating with one another as issues develop. As a group we’ll discuss and come up with policies regarding such issues as group dynamics, quiet hours, drinking, smoking, and sexual harassment. Drug use or possession will in no way be tolerated and will result in your immediate removal from the trip at your expense.

Field Trip Guidebook
We will prepare a field trip guidebook to use as a resource during the trip. The Guidebook will be divided into chapters covering different aspects of the geology and natural history that we will encounter along the trip. We will prepare a list of these different topics (e.g. volcanoes in the San Juan Mountains; Avalanches and their effects; Geology of Ore Minerals in Creede) based on the final field trip itinerary. You will work to produce one chapter of this guidebook during the semester and I will compile this into a bound guidebook that I will distribute at the beginning of the trip. When we visit the area that is the focus of your field guide, I will ask you to give a short presentation to the rest of the group at the beginning of the day to introduce us to this area—you will be our “experts” for that day.

Grading
Grading will be based on your participation and attendance, your field notebook (based on both quality and completeness), your chapter of our Guidebook, quizzes and short tests focused on the geologic history of Colorado, and homework. Your grade for the in-class part of the class (1-credit) at the end of the Spring semester will be based on the following items weighted approximately as follows:

- Homework (Sp Semester): 55%
- Quizzes (Sp Semester): 15%
- Final Exam: 30%

You will also need to register for this class during the Fall 2012 semester (3 additional credits). The grade you receive for this class will be based on your work during the summer on the field trip as well as your field guide chapter. Your notebooks will be turned in at the end of the field trip and you can expect to receive a grade for the course sometime during the fall semester. Your grade for the summer field trip part of the class (3-credits) will be based on the following items weighted approximately as follows:

- Evaluation of your Field Trip Notebook/Field Exercises: 70%
- Participation, Attendance, Attitude, Responsibility: 15%
- Final version of your Field Guide Chapter: 15%

Trip Expenses
Our three-week field trip will most likely cost between $800 and $1,000 per student. Our group expenses include van and truck/trailer rental, campground fees, food, propane, park and museum entrance fees, and other miscellaneous items. I will give you a deadline for paying those fees that will be near or at the end of July. Any unspent fees will be returned to you after the trip. You are responsible for arranging your own transportation to and from Colorado. I prefer to start the field trip from Colorado Springs, but some years it’s much cheaper to fly into Denver. Current round-trip airfares between Burlington and Denver are ~$500.