Alpine Ecology
Montana Tech Course, BIOLOGY 416

INSTRUCTOR: Dr. Richard J. Douglass
TEXT: None, but bring field guides for plants, birds and mammals if you have them.
DATES: August 19 through 25, 2013
   Montana Tech students should ready to board the van in the Prospector Hall driveway by
   Marcus Daly statue at 9 a.m. on August 19, 2013.
LOCATIONS: Various places in the mountains surrounding Yellowstone National Park. These
   include camps near the Chain Lakes (Aug. 19- 20) on the Beartooth Plateau, Eagle Creek near
   Gardner (Aug. 21- 23), Mt, and Beaver Creek near Quake Lake (Aug. 23-25).

OBJECTIVES OF COURSE

The objective of this course is to allow students to form and test hypotheses about ecological
phenomena under field conditions. Students will be required to formulate their own hypotheses,
devise ways to test them, collect data and prepare a high quality paper presenting their findings.
Oral and poster reports will also be required. Students will work in groups of three or four.
Possible projects include: effects of altitude on plant communities or tree height, effects of
population density on elk calf production, effects of elk browsing on willow and aspen growth
and regeneration and impact of grazing on grass biomass.

GRADING

There will be three grades given at the end of this class. These are: A, F or Incomplete. The
grades will be based on a term paper submitted before the end of fall term as well as poster and
oral presentations. The paper must be in an appropriate format, explain the hypotheses tested,
present appropriate data and data analysis and have a good literature based discussion. More
information concerning the paper will be supplied when the course begins. Papers can be re-
submitted as many times as is required to obtain an A. Posters and oral presentations will be
"peer" reviewed by the class. Due dates for posters, presentations and papers will be determined
during field studies. Dr. Douglass will spend some time with YSCC students in West
Yellowstone immediately following the course in order to ensure these students are squared
away on post field trip responsibilities.

LOGISTICS

The college will furnish one 14’x16’ wall tent, one 12’x14’ wall tent plus smaller tents and all
cooking equipment. If you want to bring a small (very small) back pack tent, you may. Vehicle
charges will come from your lab fee. We will be camping during the entire time we are away
from campus. We will "visit" town a couple times to re-supply.
Dr. Douglass will do most of the cooking. Assistants will be assigned each day. We will collect $90 from you as you get into the van on the 19th. This will be used to purchase food. At the end of the field portion of the course we will divvy up what is left. If you want to buy snacks and other types of crutches on your own, you may. You will be stuck for the first three days with my choice of food. After that we can negotiate something different.

**RULES**

Students are expected to abide by all aspects of the Montana Tech Student Handbook. You are also expected to abide by all State and Federal laws. YSCC students are also expected to follow any additional rules spelled out in the YSCC MOU with participating colleges. Specific rules for overnight field trips are:

1. Do not leave camp without obtaining permission from the instructor and letting them know where you plan to go and how long you will be gone.

2. Do not disturb any person in the camp grounds.

If you break either of these rules *(there are no second chances)*, Dr. Douglass will arrange for you to return home.

**EQUIPMENT:**

Besides the normal socks-sorts-shirts stuff (don't bring too much of this), you will need:

- Notebooks, pencils, etc.
- Calculator
- Day pack
- Sleeping bag
- Small backpack tent if you wish, but I will have plenty of tents
- Sleeping pad (smallish)
- Eating utensils, plate, cup, bowl
- Field boots
- Camp shoes (flip-flops or running shoes).
- Rain coat
- Hat
- Sunglasses
- Jacket
- Mosquito repellent
- Swimsuit (our only showers will be in creeks, lakes or rivers)