EQUIPMENT LIST FOR FIELD CAMP

**Field notebook:** This should be a write-in-the-rain style book with hard covers and not spiral bound. ELAN is one brand name and is available at the bookstore at Coffman Union. Do not get a spiral bound field book. Instead, get one that is bound like a book.

**Good mechanical pencils:** 0.5 mm point, bring several and extra leads. Use 2H or 3H lead, not HB as it is too soft and will smudge on your map. You can get these at Coffman Union.

**Extra erasers or an eraser stick.**

**Fine-point ball point pens:** Good quality, black ink, a range of point sizes. You can get these at the bookstore at Coffman Union and definitely at an art supply store or stationery or office supply store. Micron and Zig are relatively inexpensive brands; Rapidograph is an expensive brand (not sure it makes sense to buy Rapidograph). You **must** have at least one fine tip (size 01) and one heavy tip (size 05) and you might want to have more than one of each and other sizes as well. These pens will be used for finishing your field maps and ball point and other types of normal writing pens are not acceptable.

**Colored pencils:** a box of 24 is your best bet, but 12 would probably work. These are for coloring your maps and your cross-sections.

**Protractor:** This should fit in or on your map case so you can use it in the field.

**Ruler:** Your protractor will probably have a ruler on one edge, but a full size ruler could be useful.

**Handlens:** Should use at least a 10x handlens, but 16x will work also. The more expensive it is, the better the optics. Use a piece of string or a shoelace or a macramé cord your friend made you at camp as a lanyard so you can keep it around your neck and handy at all times.

**Waterproof magic markers (aka Sharpies):** at least two with big tips for marking any samples you collect.

**White out:** for correcting mistakes on your extremely neatly drawn maps, cross sections, and strat columns.

**Pencil sharpener:** to sharpen your colored pencils.

**Geological equipment**

**Rock hammer (required):** I recommend an Estwing rock hammer with a hammer on one side and a pick (“rock pick”) or chisel end (“rock pick [chisel edge]”) on the other side. A 10 or 11 inch hammer should be sufficient. Some folks like the longer handles, but I think they get in the way. Nylon or leather grip as you like. You do not need and probably will not want a mallet style hammer or crack hammer that has thick, heavy hammer ends on both sides. This is generally a hard rock hammer and will be heavy to tote around in the field. Claw hammers or framing hammers are not acceptable.

**Belt or hammer loop (optional):** You can get various types of belts or gear holders that you can attach to a belt to hold your hammer and even your notebook or Brunton compass or other small gear. I usually slip my hammer through my normal pants belt and put my notebook in my back pocket and clip my pencil to the neck of my shirt, but having a gear pack on your belt is handy too. If you cannot slip your hammer through your belt or don’t have a hammer loop, you will basically have to carry your hammer around in your hand the whole time.
**Mapboard:** This can be more or less elaborate as you want. The simplest arrangement is a regular old clipboard. This is not really ideal as it does not have good places for attaching or holding pens and pencils and your field notebook. You can also buy fancier metal clipboards that are like a shallow box with a flip top and a clip at the top. The disadvantages of these is that they may not have a large enough area to have the whole mapping area visible at once, meaning you have to fold the map through the mapping area, and that the map cannot be covered while you are not working on it. This won’t be a problem for our projects, but other fieldwork you do may have a larger map area. Another option is a couple rectangular pieces of plexiglass connected along the top with duct tape or some more permanent arrangement. This design also lacks places to hold other equipment, but it allows you to see the map while it is protected from dirt and rain. You should make the board 12x15 inches so that it will be big enough to have the entire mapping area visible with the rest of the map folded underneath. If you go this route, be sure and round off corners and edges. Also, you can get all fancy and design and make your own customized mapboard. You might want to ask friends who have taken field camp already or grad students for more advice.

**Watch with alarm THIS IS REQUIRED:** Your cell phone is not an acceptable substitute for a wristwatch in the field. You are never certain about having service on a cell phone, not all cell phones have a clock that functions independently of cell service, and the charge on the batteries on a cell phone do not last as long as the battery in even the least expensive digital watches. You must always be aware of the time of day so that you can make field meeting times, know how much field time you have left each day, and know how long it takes to move from one area to another. Also, you will be responsible for waking yourself each day, so a watch with an alarm is handy and frees you from relying on anyone else.

**Camping/hiking equipment**

**Tent:** We will be camping for three weeks. A two or three person tent will be sufficient. **Do not bring huge four person or family tents.** If you do not have a tent and do not want to buy one now, team up with someone who already has one for the camping nights. Bring a ground cloth or tarp if you use one with your tent or want to sleep outside but not on the ground. Practice setting up your tent once or twice or more before we head out in June.

**Sleeping bag:** You will sleep in your sleeping bag while we are camping. You should probably have a bag that is good down to around 15° F at least just to be safe, but we probably will not have temperatures that low anywhere. That being said, we will be in the mountains and you never know.

**Sleeping pad:** Thermorest or Ensolite are good brands that span a range of sizes, styles, and costs. These make camping more comfortable and help keep you warm at night.

**Pillow:** A pillow can make the longer van rides a little more comfortable and make you more comfortable for three weeks of camping!

**Day pack:** This will be for carrying your gear in the field every day. You do not need an expedition backpack to carry your food, water, rain jacket, extra clothing, and assorted other gear.

**Water bottles or camel bag for your pack:** **THIS IS A MUST:** you must have AT LEAST two liter or quart sized water bottles or the equivalent in a camel back. This is an absolute must. If you get dehydrated, you will get a check minus.

**Flashlight or headlamp:** This will be useful while we are camping. A headlamp is handy as your hands are free.
Pocketknife: a basic Swiss army knife or the equivalent is extremely useful for all sorts of things in the field and is a standard piece of field gear for most geologists.

First aid kit: **THIS IS REQUIRED**: you must have a back packer sized first aid kit with at least the basic gear (various band aids, disinfectants, allergy meds, aspirin or ibuprofen, tweezers, gauze, ace bandage, anything else you think you want to have). You can get these at Midwest Mountaineering or REI or other outdoor stores. You can also make your own if you prefer. The TAs and I will each be carrying more extensive first aid kits, but you must have your own also.

Sunscreen: **THIS IS REQUIRED**. You will be outside all day at higher elevation than you are accustomed to and will often be in the sun all day. I strongly recommend at least SPF 30 strength sunscreen. The use of sunscreen by young Americans has declined over the last 20 years, the use of tanning salons has increased, and the incidence skin cancers has increased. The risk of skin cancer can be greatly decreased through use of adequate sunscreen. Also, if you get badly sunburned in the field you will get a check minus.

Bug dope: Probably won’t have to deal with much in the way of skeeters, but it is always good to be prepared.

Sunglasses. These are good to protect your eyes on bright days and to make you look cool in the field.

Binoculars: Completely optional, but good for seeing far away things up close!

Camera: lots of world class, textbook outcrops and beautiful scenery and wildflowers.

**Clothing**

**Jacket**: It will get cool to cold at night in the mountains and the mornings will usually be cool also. You can get an idea of the weather by checking out [www.weather.com](http://www.weather.com) for Baker, NV, Elko, NV, and Black Hills, SD. You probably do not need a parka, but something you can wear over layers is good. A fleece jacket will probably do just fine.

**Wool sweater**: This is good for layering. I will bring both a sweater and a fleece jacket.

**Long sleeve shirts**: Long sleeve t-shirts or flannels or synthetics are good for layering. I will bring one or two of each.

**T-shirts**: I will bring five or so t-shirts. White or bright colored t-shirts are much better than black or dark colored and are easier to see at a distance in the field.

**Pants**: I suggest long pants rather than shorts for field work, but that is just my personal preference. You may prefer more tan over more of your body and advancing your risk of skin cancer. I prefer fewer cuts and scrapes from sage and rocks! One option is the ever hip lightweight pants with legs that zipper off. You will also want to have at least one pair of warm pants to wear at night if it is cool. I like blue jeans because they are sturdy and durable, but they do not dry quickly when they get wet. I will bring both pants and shorts.

**Warm hat, gloves and/or mittens**: it can get cold at night in the mountains.

**Field hat**: **THIS IS REQUIRED** for protection from the sun. A lightweight, light colored hat with a wide brim that shades your neck, ears, and face is best. Think protection, not style, unless you find THE HAT that combines both. That is a hat to hang onto!

**Sturdy hiking boots**: You do not need mountaineering or expedition style boots, but you want a good, sturdy hiking boot or trail shoe that has tough soles and good ankle support. You will be hiking around all day on uneven terrain. **If you have new boots, be sure to wear them for a few weeks before we go so they are broken in.** If you cannot go into the field because your feet are covered in huge blisters from your brand new boots, you will get a
check minus for the day. Gaiters to keep rocks and dirt and snakes out of your boots are optional. Some folks use them and like them; I never have.

**Hiking socks:** Bring at least three pairs of good hiking wool or wool/cotton blend socks. I like Smartwool brand. You can get good hiking socks at Midwest Mountaineering or REI or other outdoor stores.

**Rain jacket and pants (no ponchos; cannot work in them):** We will work through light rain, so you will want to have a shell or poncho with you in the field at all times.

**Bandana:** Good for all sorts of things while doing field work or camping.

**Bathing suit:** Optional. You might have the opportunity to swim in rivers once or twice.

**Bath towel.**

**Biodegradable soap:** Since we will be camping the entire time, we will bath in the rivers and creeks. You will be allowed to use only biodegradable soap, preferably unscented.

**Luggage:** The best thing to pack your clothes and camping and field gear into for travel is a *duffel bag* as that is the easiest thing to stack into the back of the vans. The next best thing is a backpack. We will not be doing any backpacking, so a backpack is not really necessary but it is basically a duffel bag. The worst option is a regular hard suitcase. These are bulky and harder to pack into the van.

**Cooking and personal gear**

**Utensils:** Bring fork, knife, and spoon (or a spork!)

**Cup or mug, plate, bowl:** Something suitable to eat your gruel in while we are camping

**Chapstick:** You probably should have chapstick with sunprotection also.

**Personal hygiene items of a suitable sort.**

**Medications:** If you take medications regularly, be sure and bring an adequate supply for our three week trip.

**Music:** You might want a discman or I-Pod or some such and headphones. The vans have tape or cd players, so if you have a tape adapter or radio transmitter for your music gadget that might be handy. Bear in mind that I will be the final arbiter of good musical taste at all times in my van!

**Money:** You will want some spending money for the trip out and back and for any trips into Dillon on grocery runs or for one or two evenings of fun or on the days off. The Birch Creek Center has coin operated laundry machines (we will supply soap), so bring some quarters. Several flavors of cash machine are available in Dillon.

**A good attitude.** This is an absolute **MUST!**