Much of your activity this Semester will take place in the field, so you will need to come prepared with the appropriate gear for being outdoors in all conditions. You will be on a 5 day/4 night backpacking trip during the beginning of the Semester and having the proper gear will ensure that this is a successful trip, personally and academically. During the rest of the Semester you will be living at our rural facility - attending lectures for part of each morning and doing fieldwork in the afternoons – interspersed with several 3-4 day “car camping” (not backpacking but still sleeping in tents) trips to nearby communities as well as staying with families in the valley. You will be sharing a room with up to 3 other students and will have ample space to store your items.

Below is the equipment list separated into A) a backpacking trip list and B) an “everything else” list.

BACKPACKING CHECKLIST: REQUIRED

Please make sure you arrive with everything on this list since we will leave for the backcountry shortly after the program starts and will be unable to pick up last-minute gear from town.

____ BACK PACK: a full-size pack (minimum 40 liters in volume) with external or rigid, internal frame which can hold everything else on this backpacking list, plus 5 days’ worth of food and your share of the group gear (part of the tent, stove or fuel, and one of the following: water filter, first aid kit, cook pot, rope). Large day-packs, or even "day-and-a-half packs" are not large enough! Also, do not bring luggage that converts into a backpack by virtue of a few straps (it’s happened before and it’s not pretty). I’d recommend test-driving a new pack a few times with a heavy load so you can experiment with getting all the adjustments just right. You can cinch this pack down to use as a daypack during the rest of the program if you don’t want to bring an additional day pack.

____ PACK COVER: a waterproof cover for your pack is necessary for both keeping your pack covered at night and for wearing over your pack during rainy days. We’ve almost never made it through an L&L backpacking trip without rain or snow.

____ SLEEPING BAG: In September, nights are already chilly. Either synthetic fill or down is fine; no cotton. Your bag ought to be rated 0 or 10 degrees; however, comfort levels vary tremendously from person to person! If you’re not sure, test out your bag prior to arrival.

____ GROUND PAD: 3/8”closed-cell foam pad such as ensolite or ridge-rest; or a self-inflating type such as Thermarest. This will add about 10 degrees to the temperature rating of your sleeping bag. Open-cell foam pads are not acceptable - they would turn into a soggy mess if they got wet.
INSULATED MUG WITH LID

BOWL and SPORK/SPOON for camping: made of Lexan or plastic or whatever lightweight, difficult-to-break substance you like

STURDY LEATHER HIKING BOOTS: break in new boots before you arrive - which really means breaking in your feet! This can take a long time and many miles. Make sure they are waterproofed in advance as well. We recommend "Obenauf's" boot grease but every good shoe store carries their own special formula. “Light hikers” are NOT acceptable as your sole source of footgear since they cannot provide enough ankle support while you are carrying a heavy pack off trail.

SOCKS: NON-COTTON. the combination of a polypropylene or silk liner sock plus a wool insulating sock seems to work well for most people. This arrangement reduces the chance of blisters and keeps feet from sweating too much while hiking. No vapor barrier socks. And no cotton while hiking, though some folks bring a cotton pair to wear at night; this lets feet dry out and prevents “trenchfoot.” But if you’ve got wool socks for the trip, just save one pair for putting on at night (in the foot of your sleeping bag is a great storage spot).

LONG UNDERWEAR (WICKING LAYER), TOP AND BOTTOM: a set of synthetic (polypropylene, etc.) or silk long underwear. The “waffle” kind of thermal underwear is usually cotton, which is not a good insulator when it gets wet. Check the tags!

WARM, INSULATING LAYER, TOP AND BOTTOM: at least one pair of non-cotton pants (wool or fleece or “softshell” polyester) AND three top layers consisting of any combination of the following: wool sweater, warm parka, fleece jacket, down jacket, or wool jacket. You'd be surprised at how cold it will be in the mountains in September, especially in the mornings.

RAIN JACKET AND PANTS: Waterproof or waterproof/breathable rain gear - coated nylon or gore-tex-type fabric. Thin plastic rainsuits or ponchos are not acceptable; they tear too easily.

WARM HAT AND WARM GLOVES OR MITTENS: for chilly nights and mornings. We often sleep with these on as well.

WATER BOTTLES: bring two one-quart Nalgene bottles or a camelbak-type bag with at least a 2- quart capacity. Don't bring glass bottles or soda bottles; they break too easily. Bicycle water bottles usually leak.

PLASTIC BAGS: 1-2 large plastic bags (trash compactor or “contractor” bags are perfect) and a few smaller ones, to keep stuff dry in your pack when it rains. Individual gallon-size Ziploc bags work great for keeping socks & extra layers dry.
TOILETRIES: sunscreen, toothbrush, tampons, contact lens solution, lip balm, etc. All of these items will need to be stored inside a portable electric fence with the food at night or when we’re away from camp, so a separate stuff sack for these items will be handy. Used tampons cannot be buried and will need to be carried out in a ziploc bag. Diva cups work just fine - you can empty them in a cathole and bury it just like any other human waste - human blood does not attract bears contrary to myth. Do not bring shampoo or deodorant for the backpacking portion of the program.

PERSONAL MEDICATIONS: if you are taking any medication, make sure you have prescriptions filled ahead of time as there is no pharmacy within 45 miles.

HEADLAMP: take the batteries out - or turn one backwards - during travel time (in the car or on foot) so you don’t accidentally run down the batteries. Also, bring a spare bulb & set of batteries just in case.

POCKET KNIFE: Swiss-Army or Leatherman- style multi-tool; remember to put this in your checked bags if flying to Montana

MATCHES or LIGHTER: also in checked baggage

BACKPACKING OPTIONAL

CLOSE-TOED “LOUNGIN’” SHOES: Sneakers, crocs, etc. Dry, soft-soled shoes will feel good on your feet around camp after a long day of hiking. Do not bring open sandals like Tevas or Chacos because the chance of injuring your feet is too great and we can’t afford to have you lame when we’re 10 miles from a trailhead.

GAITERS: it is important to keep your feet/ lower legs dry while bushwhacking. Full-length (starts just below the knee and covers the top and sides of the boot) gaiters work well for this task, but some folks think their rain pants are fine on their own. We’ll leave it up to you: gaiters are optional, but rain pants are not – so you can work out the system you like best. Outdoor Research makes several models of gaiters with velcro closures if you want to go the gaiter route.

- Binoculars – we strongly recommend you bring a pair if you own them, or borrow if possible
- Camera
- Personal first aid kit (we do carry a group kit as well)
- Star chart
- Crazy creek chair or equivalent
- Compass: Liquid Filled, declination adjustable (has built-in magnetic declination adjustment screw – very important - if it doesn’t have this feature don’t buy it!) An excellent choice is any of the Silva Ranger CL series - CL, CL15 Q, CL15 A, etc. or anything comparable

EVERYTHING ELSE LIST

COMFY WORK CLOTHES FOR TWO MONTHS: Fall temperatures in Montana can hit all points of the thermometer. You can expect a combination of sunny and warm days, cold rain, and our first snowfall of the season. Nighttime temperatures will likely fall below freezing as the days shorten. Most of our time will be spent in the valley bottom but when we take trips into the mountains, expect the same, only colder.

WINTER BOOTS: Our first snowfall of the season can come anytime in the fall, and usually by late October we have cold weather and a light dusting of snow. Your feet will appreciate a warm, dry boot for our later field activities. This may be your hiking boots – or it may be a separate, dedicated winter boot. Up to you.

BEDDING: We provide pillows, pillow cases and sheets – and you’re welcome to sleep in your sleeping bag in your room all semester, but some folks like the freedom of blankets.
PERSONAL TOILETRIES: Whatever stuff you need above & beyond the bare essentials covered on the backpacking list. Consider bringing a "bathroom tote" to keep your toiletries organized in the washhouse - or just use a stuff sack.

1 SPIRAL NOTEBOOK: lined paper, for taking notes

POCKET-SIZE FIELD NOTEBOOK: 3x4.5” is standard, or whatever fits in your pocket. Great for jotting messy notes down in the field when it isn’t practical to haul around your full-size, field journal (see below). Rite in the Rain brand is a great idea because you can still write on its paper when the paper gets wet. We will be out in the field regardless of the weather, so expect to be taking notes in the rain and snow.

TWO FIELD JOURNALS: You’ll need a separate field journal for 2 of the courses during the Semester; they must have the following attributes:

- larger than 6”x9” – do not bring a smaller one; it’s too difficult to do actual work in a tiny journal
- binding which allows the book to lay flat – spiral is typical
- hardbound or other sturdy cover
- blank pages, not lined
- during the backpacking trip, you will want a one-gallon Ziploc bag to keep a journal in.
  - Do Not bring spiral notebooks, steno pads, or sketch pads bound with glue for use as a field journal. Did I stress that enough?

These DO NOT need to be expensive, like Molskine, although you’re welcome to bring that brand. Here’s a link to a perfectly good $6.50 version on the Staples website: [http://www.staples.com/Tru-Rite-Sketch-Book-9-inch-x-12-inch/product_508114?externalize=certona](http://www.staples.com/Tru-Rite-Sketch-Book-9-inch-x-12-inch/product_508114?externalize=certona)

PENS AND OTHER MISCELLANEOUS SKETCHING SUPPLIES:
- Ballpoint or other waterproof pens
- Colored pencils
- Optional: Small flexible, plastic ruler for measuring tracks in the field
- Optional: Rubber bands or binder clips to keep pages flat in windy conditions
- Optional: small watercolor set for field use; varsity team brings an old 35mm film canister for water, while jv usually uses the inside of their water bottle lid. Water colors are, as mentioned, optional but if you don't have a set, you may find yourself always borrowing someone else’s. Although there are some expensive artsy sets out there, you will be perfectly happy with the kind you used in elementary school art class.

FAVORITE COOKBOOKS OR RECIPES: All students share the responsibility of preparing dinners. Some go hog wild on homemade butternut squash ravioli with sage, hazelnut and brown butter sauce:

**WATCH/TIMEKEEPING:** we often need to get the group together after a field exercise so you’ll need to keep track of time. Everyone tells me now that they just use their cell phone. Either way.

**OPTIONAL BUT HANDY STUFF**
- Laptop – strongly encouraged; you’ll appreciate one for writing papers. Internet access can be painfully slow when lots of students are trying to get online.
- Waders - We’ll be wearing waders for the duration of the Watersheds class. We own lots of pairs, but if you have your own, please bring them.
- Musical instruments
- Shorts
- Pajamas
- Fishing gear – The combination Montana fishing license/conservation license costs about $25 for in-state residents and $70 for out-of-state residents.
- Bicycle
- Calling Card for occasional phone calls home on the student phone line in the cookhouse. The Swan Valley and surrounding areas have unreliable or nonexistent cell phone service (AT&T users will get spotty coverage, Verizon will get none), but you are welcome to bring your own phone and give it a shot!
- Camera
- Crocs or other slip-on shoes – make life easier when you just want to run out of the barn and go to the washhouse in the middle of the night
- Another optional footwear recommendation: slippers or booties for indoor-wear only