Outdoor Action Backpacking Trip Personal Equipment List

Below is the list of equipment you will need to bring with you for a backpacking, backpacking and canoeing, or backpacking and rock climbing trip. The following list of equipment is based on thirty years of experience in running trips. You will be quite comfortable in any situation if you bring ***all*** the gear on the list. You shouldn't need to bring other items.

Generally, we have summer temperatures in the 80s to 90s ° F. But temperatures can vary considerably cooler — in the 60s and 70s during the day — which would mean ***in the 40s at night***. Since you can never be sure what the weather will be like, you need to bring a range of clothing for various conditions. By having a variety of layers of clothing you can adjust your layers to suit your activity level and the weather conditions.

The clothing layers should consist of several different types of fabrics. **Cotton** is comfortable and breathable, ***but*** it absorbs and retains water, and therefore it will ***not*** keep you warm if it gets wet. Also it can be difficult to dry. For this reason you should ***not*** bring **heavy** all-cotton clothes such as sweatshirts, sweatpants or blue jeans. Lightweight cotton 50/50 T-shirts and underwear are fine as are lightweight cotton or cotton/synthetic blend shirts and pants. **Wool or synthetic fleece** fabrics (such as Polartec 100 or Polartec 200) don't absorb water so they keep you warm even if they get wet. Fleece also dries very quickly. A wool sweater or fleece jacket provides warmth on a chilly evening. **Polypropylene** (PolyPro) is a thin, breathable synthetic fabric that keeps cool during the day but can provide warmth at night. Most athletic warm-up gear is made of synthetic fabrics and can be a great thing to bring on your trip that will keep you warm and dry quickly.

A combination of these types of fabrics creates a layering system. The **inner layer** keeps the skin dry and comfortable. Polypropylene or other synthetics wick the moisture away from your skin. Lightweight cotton provides good ventilation for the skin to keep dry and cool and during the day you will most likely hike in a cotton 50/50 T-shirt and shorts. The **middle layer** provides some insulation and protection from the elements. Long-sleeve shirts and long pants make up this layer. You may wear these during the day for sun protection or in the evening when your activity level is low and it starts to cool off. The **outer layer** provides insulation and is usually a wool sweater or fleece jacket. You will wear this around camp at night. The **shell layer** protects you from wind and rain. A waterproof rain jacket is essential in case of bad weather. A coated nylon rain jacket or poncho is lightweight, inexpensive, and works well. Waterproof-breathable fabrics like Goretex also work well but are expensive. For the **head layer,** bring a wide-brimmed hat for sun and rain protection. At night, a wool or synthetic fleece hat can be helpful for warmth. The **feet layer** is actually two layers of socks. You should wear a lightweight synthetic liner sock against your foot, which helps pass moisture away from your foot. On top of this you wear a wool/nylon-blend hiking sock. People wonder why you should wear a wool sock with summer heat. Since wool doesn't absorb water it passes the moisture from your foot outwards, keeping your foot drier. If your feet get damp, they get wrinkled and are more prone to blisters. Having two sock layers means that your socks will slide against each other so that any friction from your boots is between the sock layers rather than directly against your skin (friction against the skin leads to blisters).

Please check off each item as you assemble your equipment to make sure that you have everything.

Outdoor Action can provide the following items on a limited basis. If you have these items or can borrow them, *please* do so.

_____ **1 sleeping bag with stuff sack:** Any summer weight synthetic fill bag (Polarguard, Polarguard 3D, Quallofil) will do. The bag should have a nylon shell both inside and outside. Down bags are acceptable but extra care must be taken to keep them dry. Line your stuff sack with a sturdy plastic bag to give yourself added protection from rain and/or rivers. ***Do not*** bring cotton fill bags or bags with cotton outer shells. They cannot be dried if they get wet.

_____ **1 external or internal frame backpack** with shoulder straps and padded hip belt. You should also have sleeping bag straps, bungee cord, or rope to hold your sleeping bag onto the pack. External frame packs should have 3,300 - 4,300 cubic inches of volume and internal frame packs 4,000 -

5,000 cubic inches. Make sure that the pack fits well and that all straps and zippers are in working order. See the information on backpacks from *The Backpacker's Field Manual* below.

_____ **1 closed cell foam sleeping pad** (3/8 in. Ensolite foam like RidgeRest) or inflatable mattress (like Thermarest). Pads provide insulation from the ground and padding for more comfortable sleeping.

The items below are the ones that you will be expected to provide.

Feet:

_____ **1 pair of lightweight hiking boots:** Boots should extend above the ankle and be either leather/fabric or all-leather with lug soles for traction. It is best if the boots can be waterproof, either by treating the leather with a waterproofing compound before the trip or if the boots have a Gore-tex (waterproof/breathable) liner. Boots should fit comfortably with two pairs of socks, a light synthetic liner sock and a heavy wool sock. ***Above all, make sure that your boots are well broken in before you arrive. Otherwise your feet will pay the price. We cannot emphasize this enough. Non-broken-in boots invariably cause blisters***. Leather/nylon boots that extend over the ankle should be sufficient for the Frosh Trip and are lightweight enough to wear around campus. All-leather boots are more waterproof and last longer than leather/nylon boots, though are generally heavier. If you plan to do more hiking it may be worthwhile to invest in all-leather mid-weight boots. See the information on boots from *The Backpacker's Field Manual* below.

_____ **1 pair of running shoes or sneakers:** For around campsite wear and/or water activities.

_____ **2-3 pairs of light synthetic/polypropylene liner socks:** Wearing liner socks underneath wool socks helps to prevent chafing since the friction is between the two pairs of socks, not between the boots and your feet.

_____ **3 pairs of medium weight wool hiking socks:** Wool socks keep your feet warm even when wet and give good cushioning. The higher the wool content of the socks the better (we recommend 85% wool, 15% nylon). Do ***not*** bring cotton socks.

Lower Body:

_____ Underwear as needed.
_____ 1-2 pairs of loose fitting shorts
_____ 1 pair long pants, loose fitting, cotton/synthetic blend, athletic warm-up pants, cotton (***No*** blue jeans or cotton sweat pants - they take too long to dry.)
_____ 1 lightweight polypropylene long underwear bottoms (Optional but highly recommended)
_____ 1 pair coated nylon rain pants or rain chaps (Optional)
_____ 1 bathing suit

Upper Body:

_____ 2 T-shirts
_____ 1 long sleeve polypropylene top or other synthetic like an athletic warm-up top (Highly recommended)
_____ 1 wool shirt, wool sweater, or synthetic fleece jacket
_____ 1 rain jacket or poncho. Try to avoid the rubberized canvas jackets if you can; they are heavy and usually result in your getting hot and sweaty. Coated nylon is recommended. Check to see if it is waterproof!

Head:

_____ 1 brimmed cap: For sun and rain protection
_____ 1 wool or synthetic fleece hat for warmth at night (Highly recommended)

Miscellaneous: The following items should be available at home or can be purchased with a minimum of expense.

_____ 2 1-quart water bottles or canteens – ***must have!*** Nalgene brand recommended.
_____ 1 unbreakable cup with handle
_____ 1 unbreakable bowl
_____ 1 spoon
_____ 2 bandannas
_____ 1 small flashlight or LED headlamp with fresh, alkaline batteries (alkaline batteries last longer)
_____ 1 small towel (optional)
_____ 1 toilet kit: Just the essentials - toothbrush and toothpaste, comb, sunscreen**,** lip balm, and insect repellent. (Repellents with high concentrations of DEET may be hazardous. Do not use products with more than 35% DEET. No aerosols please.) ***Do not*** bring shampoo, soap, shaving cream, deodorant, etc. OA will provide hand sanitizer and biodegradable soap.
_____ 1 pocket knife
_____ At least 3 heavy plastic garbage bags: one for sleeping bag, one for inside backpack, one as a rain cover. This is important to keep your gear dry during rainy weather.
_____ 1 pair of sunglasses or clip-ons
_____ 2 pairs glasses or contact lenses (if needed): If you wear contact lenses and will have difficulty cleaning them in the field it is suggested that you bring glasses instead. Please bring an eyeglass safety strap for your glasses.
_____ **Any medications you will need to take during the trip (allergy medications etc.).** ***If you are allergic to bee or wasp stings and require medication, please bring any needed medication and inform OA Staff and your leaders of your allergy when you arrive at Check-in.***
_____ 1 small notebook and pencil (Optional)
_____ 1 camera and film (Optional)

Sources for Equipment

The best places to look for equipment are at a store in your area that carries backpacking equipment. Chain stores such as REI (Recreational Equipment Incorporated) and Eastern Mountain Sports (EMS) are all good places to try. You can also mail order items from a variety of places such as Campmor, Eastern Mountain Sports, L.L. Bean, and REI. Sierra Trading Post offers good sale prices.

Recreational Equipment Inc. (REI)
Sumner, WA
800-426-4840
www.rei.com

Eastern Mountain Sports (EMS)
Peterborough, NH
888-463-6367
www.emsonline.com

L.L. Bean
Freeport, ME
800-221-4221
www.llbean.com

Campmor
Saddle River, NJ
800-226-7667
www.campmor.com

Sierra Trading Post
discounts on closeout equipment
www.sierratradingpost.com

Boots for Backpacking

excerpted from The Backpacker's Field Manual

One of the most important pieces of equipment that you bring into the backcountry is your boots. They should be selected according to your needs—trail conditions, terrain, pack weight and personal requirements. Boots are

an investment—selecting, fitting, breaking-in, and caring for your boots will help them to last a long time. For Leave No Trace Camping, you should also bring a pair of tennis shoes to wear around camp.

Fitting - Proper fitting of boots is essential. You should try new boots on only in the afternoon since your feet swell during the day. Select a sock combination of a liner sock and outer sock and try the boots on with what you will actually be wearing. The boots should fit comfortably in the middle range of tension on the laces (so you can tighten or loosen the boots as needed). With your foot flat on the ground, try to lift the heal of your foot up inside the boot. There should be only ¼ - ½ inch (6-12 millimeters) of heal lift. Some boots are made in Unisex sizing, others are specifically designed for men's or women's feet dimensions.

Breaking-in - Break in a pair of boots well **before** your trip. Begin with short walks and gradually increase the time you wear them to allow the boots to soften and adjust to your feet. Easy day hikes are a good way to break in boots. Each time you lace your boots, take the time to align the tongue and lace them properly, otherwise the tongue will set into a bad position. If you haven't worn your boots for a while, it is a good idea to wear them for several days before a trip to "re-break" them in.

Some Example Boots and Prices

Hiking Boots – these will suffice for the trip.

Boot	Price	Description	Available From
EMS Day-hiker	$39	Light, durable, Nubuck leather upper	EMS
Dunham Green Mountain Plus	$49	Lightweight and waterproof with leather upper	Campmor
LL Bean Day Hikers	$79	Suede and nylon with Gore-Tex waterproof, breathable liner	LL Bean
REI Monarch	$80	Lightweight, breathable	REI
EMS Dry-hiker II GTX	$99	Suede and nylon with Gore-Tex waterproof, breathable liner	EMS

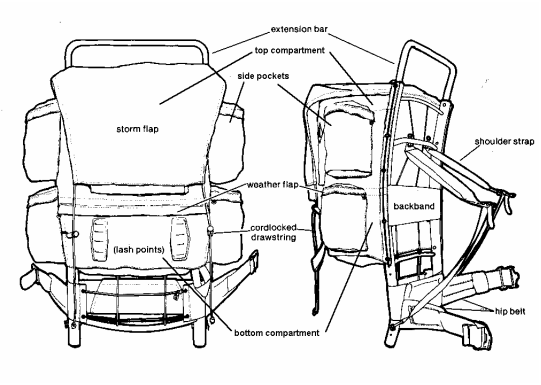
Backpacking Boots – These are heavier and may be a better investment if you plan to do more hiking or backpacking

Boot	Price	Description	Available From
LL Bean Knife Edge Trail Boots	$109	Nubuck leather upper, Gore-Tex waterproof, breathable liner	LL Bean
Lowa Renegade GTX	$135	Nubuck and split leather uppers	REI
Montrail Traverse	$135	Leather & nylon upper, Gore-Tex suede, water resistant suede upper	REI
EMS Summit GTX	$160	Nubuck leather upper, Gore-tex waterproof liner	EMS

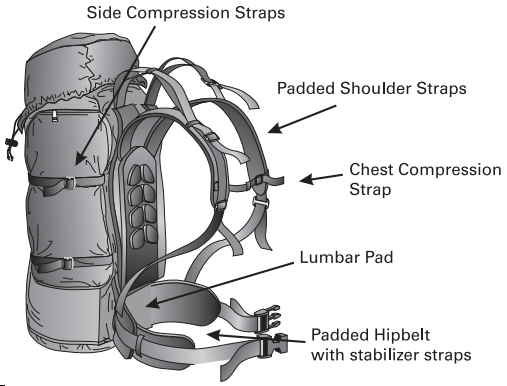
The Backpack

excerpted from The Backpacker's Field Manual

The external frame pack helped to revolutionize backpacking. Suddenly, much larger amounts of weight could be easily and safely carried allowing for longer trips. Advances in pack design offer an incredible range of sizes and options. There are two basic types of frame packs, external frame and internal frame. The purpose of the frame is to transfer most of the weight of your gear onto your hips so that the strong muscles in your legs are carrying the load rather than your shoulders. If you remember trying to carry several Encyclopedias home from school in a daypack, you know what I mean. The ideal distribution is about 80% of the weight on your hips and 20% of the weight on your shoulders. This also lowers your center of gravity making you more stable.



External Frame Pack



Internal Frame Pack

Internal versus External Frame Packs:

- **External Frame:** External Frame packs typically use a ladder-like frame of aluminum or plastic. The hipbelt and shoulder straps are attached to the frame (see above). A separate packbag attaches to the frame usually with clevis pins and split rings. Some external frame packs come in specific sizes based on the length of your spine, others are adjustable to fit almost any adult. Look for good lumbar padding, a conical hipbelt, recurved shoulder straps with good padding and a chest compression strap. **Pros:** Good for carrying weight. The External frame allows for some airspace between your back and the packbag so your back doesn't sweat as much. Frame extension bars and space for a sleeping bag outside of the pack allow you to strap on lots of gear when you need to make the carrying capacity of the pack more versatile. Less expensive than many internal frame packs. **Cons:** Most external frame packs have little if any flexibility so your the pack tends to "wobble" somewhat side to side. This is usually not a problem on a regular backpacking trip, but can throw off you balance if skiing or snowshoeing with a pack. Don't take it on an airplane unless you have boxed it up, that is if you want to see it alive.

- **Internal Frame:** Internal frame packs use a wide variety of materials, aluminum stays, carbon fiber, plastic sheets, and foam to create a rigid "spine" to which the hip belt and shoulder straps are attached (see above). The packbag runs the full height of the pack, although it may be divided into several compartments. Some internal frame packs come in specific sizes based on the length of your spine, others are adjustable to fit a range of sizes. Look for good lumbar padding, a conical hipbelt, recurved shoulder straps with good padding, and a chest compression strap. A removable top pocket and a bivy extension on the packbag will let you lift the pocket up and store more gear Also make sure that the pack has side compression straps to squeeze the pack down if you are carrying a smaller load. **Pros:** Good for carrying lots of weight. Conforms to the body better for better balance. Generally more comfortable to wear for long periods. **Cons:** Since the packbag and frame are directly against you entire back, back perspiration can be more of a problem (plan to bring extra shirts). You can't cram as much on the outside so the overall carrying capacity of the pack is somewhat fixed by it's internal volume. Tend to be more expensive than external frame packs.

Pack size is an important factor when selecting a pack. You need to make sure that you can adequately carry all the equipment and food you will need for the length of your trip. Keep in mind that the pack bags of internal frame packs are smaller than external frame packs. This is because there are spaces outside the packbag to strap large items directly to the frame. Here are some rough guidelines on pack size and trip length.

Length of Trip	External Frame Pack Bag Volume	Internal Frame Pack Bag Volume
2-4 Days	1,500+ cubic inches (25+ liters)	3,500+ cubic inches (57+ liters)
5-7 Days	2,000+ cubic inches (33+ liters)	4,500+ cubic inches (73+ liters)
8-10 Days	3,000+ cubic inches (39+ liters)	5,500+ cubic inches (90+ liters)

Buying a Pack: When you go to the store and try on a pack, the saleperson will help you adjust it and it will feel great. Then she will give you a few sand bags (25-30 pounds/ 11-13 kilos) to put some weight on. Chances are it will still feel good. The real test is when you get home and try to put 50-70 pounds (22-31 kilos). Make sure that the store will take it back after you have tried it at home if it doesn't feel right. I bought a pack once without doing this test *until* I hit the trail. With 60 pounds in the pack, the hipbelt slipped off my butt and I ended up carrying much of the weight on my shoulders. I hiked in pain over four days.

EXTERNAL FRAME PACKS

Sizing an External Frame Pack:

It is essential to have a pack that fits properly. Packs vary from company to company so check the manufacturer's specific instructions for both fitting and loading. Here are some general fitting guidelines.

The idea behind an external frame pack is to have the frame transfer most of the weight onto your legs through the hipbelt. Therefore, when fitting a pack the place to start is with the hipbelt.

- Put on the pack and adjust the hip belt to fit your hips; the top of the belt should be at or just slightly below the top of your pelvis, which you should be able to feel with your fingertips.
- With the hip belt on and properly positioned, tighten the shoulder straps and note their position. The straps should come

off the frame about even with the top of your shoulders. If the straps drop down, the pack is too small, and too much weight will be pulled onto your shoulders. If the straps go up, the pack is too large, and too little weight will go onto your shoulders. Some packs will allow you to adjust the point at which the shoulder straps attach to the frame to fine-tune your fit for height and/or width. Be sure the width of the straps is positioned so that they neither pinch your neck nor slip off your shoulders.

Loading an External Frame Pack:

The major consideration in packing a pack is how best to distribute the weight. There are two basic principles. For trail hiking over generally flat ground the weight of the pack should be high and relatively close to the body. Your heavier items should sit between your shoulder blades. For consistent steep/rough terrain carry the weight lower to give you better balance (helps to avoid falls due to a high center of gravity). In this case, heavier things should be placed more toward the middle of your back. To achieve either arrangement, load the heavier, bulky items into the large, top compartment in the position where you want most of the weight. Then fill this and the remaining compartments with lighter items. Tents and tarps can be lashed to the extender bars at the top of the pack and sleeping bags can usually be lashed to the frame at the bottom of the pack. In either case the horizontal weight distribution should be balanced so that the left side of the pack is in balance with the right. (see Figures 5.1 and 5.2). An important consideration to remember is that a woman's center of gravity is generally lower than that of a man. Thus, for women, the heavier items should be placed close to the body but lower in the pack as in the case for rough terrain above. Packs especially designed for women are designed to account for the difference in centers of gravity. Load these packs as described above and then lash sleeping bags and tents or tarps to the extender bars at the top of the packs. (See Figures 5.1 and 5.2).

INTERNAL FRAME PACKS

Sizing an Internal Frame Pack:

Packs vary from company to company so check the manufacturer's specific instructions for both fitting and loading. Here are some general fitting guidelines.

- Put on the pack and adjust the hip belt to fit your hips: the top of the belt should be at or slightly below the level of the top of your pelvis, which you should be able to feel with your fingertips.
- The frame stays or frame structure should extend 2 to 4 inches above your shoulders.
- The shoulder straps should follow the contour of your shoulders and join the pack approximately 2 inches below the top of your shoulders. The position of the shoulder harness can usually be adjusted. The lower ends of the straps should run about 5 inches below your armpits. On the shoulder straps you may find load lifters that connect to the pack at about ear level and meet the shoulder straps in front of your collarbone. These help pull the top of the pack into your shoulders.
- The sternum strap should cross your chest below your collarbone. If the frame stays are shaped correctly and the pack is properly fitted, you can adjust the load lifters and other fine-tuning straps to make the pack hug your back. Adjustments can also be made while hiking to divert weight to other muscle groups, thus making hiking less tiring.

Loading an Internal Frame Pack:

Your gear will form the structure of support for an internal frame pack. For easy, level hiking, a high center of gravity is best. To achieve this, load bulky, light gear (e.g. sleeping bag) low in the pack and stack heavier gear on top of it. For steeper terrain, a lower center of gravity is best because it lessens the chance of falls due to a top-heavy pack. In this case, place heavier items a little lower in the pack and closer to your back than normal. Women may prefer this arrangement under all circumstances. (See Figure 5.2)

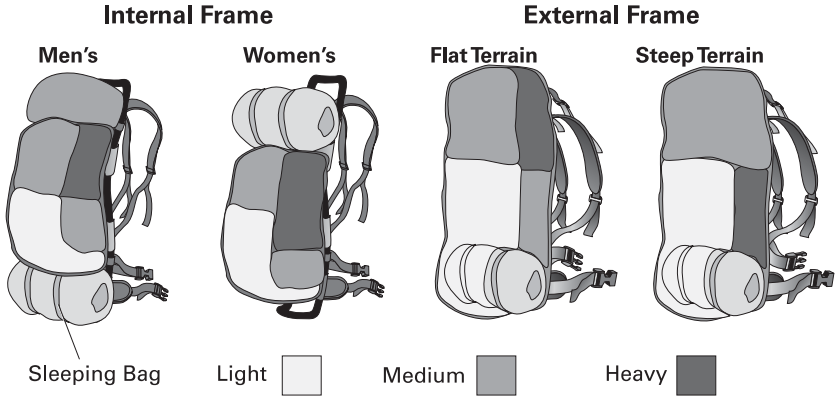


Figure 5.1 Figure 5.2