

## **Sierra Backpacking Equipment Checklist**

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Temperatures and weather conditions in the Sierras can change quickly, so during this program you will need to be prepared for anything, even snow in mid-summer. Generally we have fine warm days with cooler nights and often the potential for afternoon thunderstorms. Lows at night often drop to slightly below the freezing point with daytime highs ranging up to 80°F at lower elevations.

The equipment you bring must function well in a wide variety of conditions. Your clothing should be warm and lightweight, dry quickly, and allow good freedom of movement. The layering principle, based on several thin layers of insulation (rather than one thick one), covered with an outer weather-proof shell, meets these needs well. On cool or cold days, Sierra mountaineers typically will wear a layer of polypropylene long underwear, an insulating layer of pile or fleece when necessary, and a Gore-Tex shell in windy, wet, or colder conditions.

City clothes and other odds and ends, which you won't need during your course, can be left in the vehicle or hotel. Bring a duffel and lock for this purpose. Please take the time to prepare your equipment carefully, and if possible, become familiar with it by using it in the field prior to your program. If you have any questions don't hesitate to call the Institute office or equipment shop (360-671-1570). We'll be happy to help you with big questions or little details. Please use us as a resource as you prepare for your program.

## Climbing Equipment

***You will need these two things because there are some 4<sup>th</sup> class terrain on this hike.***

**Climbing Harness:** For alpine climbing, choose a harness with adjustable leg loops, and make sure it fits your body when wearing bulky clothing. A belay loop, gear loops, and light padding on the waist are desirable features.

*Weight:* 6 - 16oz / 170 - 453 grams

**Climbing Helmet:** Lightweight, well-ventilated, and comfortable. Models with a plastic shell are more durable, but are heavier than all foam models. Must be UIAA approved for climbing.

## Clothing & Footwear

**Own    Need**

\*Items with an "R" in the "Need" column are available for rent. Please also the included rental reservation form.

### **Base Layer Top:**

Bring two, one short sleeve and one long sleeve. This will be your base layer and should be "lightweight" or "silk weight" synthetic or wool. No cotton.

***Weight:*** 5 - 8 oz / 140 - 225 grams

***Materials:*** Synthetic, wool.

***Example:*** Patagonia Capilene 2

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### **Base Layer Bottom:**

Look for the same features as your Base Layer Top. One pair is sufficient.

***Weight:*** 5 - 8 oz / 140 - 225 grams

***Materials:*** Synthetic, wool.

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### **Undergarments:**

Most backpackers wear them underneath their base layer. 1-3 pairs depending on personal preference for changing.

***Materials:*** Synthetic, wool

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### **2<sup>nd</sup> Layer Top:**

A lightweight fleece or wind shirt. A chest pocket is a helpful feature.

***Weight:*** 13 - 16oz / 368-454 grams

***Materials:*** Nylon, micro

weave fabrics, fleece, wind stopper

***Examples:*** Patagonia Houdini, Outdoor Research Marvel, Patagonia R1

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### **Soft Shell Jacket:**

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A thin, light, stretchy, breathable but wind and snow-resistant layer that is comfortable to wear is ideal. Hoods are optional but highly recommended. Size your jacket to be trim fitting, but large enough to fit over your base and second layers. Light to moderate insulation/thickness is recommended. This layer will go over your base and insulation layers, but under your shell and parka.

**Weight:** 18 - 26 oz / 510 - 737 grams

**Materials:** Schoeller, Powerstretch, Powerdry, or similar

**Examples:** Arc'teryx Gamma MX, Patagonia Figure 4 and Ready Mix, OR Mithral

### **Hiking Pants:**

Look for the same features as your soft shell jacket. This will be your outermost layer most of the time for your legs. A thigh pocket is a useful feature for storing small items. Your base layers need to fit under these pants comfortably.

**Weight:** 16 - 30oz / 450 – 850 grams

**Materials:** Schoeller, Powershield, Powerdry, or similar

**Examples:** Patagonia Guide pants, Black Diamond Alpine Pants, Arc'teryx Gamma LT Pants, Mammut Champ

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### **Shell Jacket:**

Choose the lightest, most packable, waterproof shell that will still get the job done. Avoid extra pockets (one or two chest pockets is all you need), 3-layer Gore-Tex, and hanging linings. Your shell should be sized to comfortably fit over your other base and mid-layers (minus your insulating layer).

**Weight:** 8 - 20oz / 227 – 566 grams

**Materials:** eVent, Gore-tex, h2No, or similar

**Examples:** Rab Latok Alpine, Patagonia Jetstream, Marmot Precip

Own	Need

### **Shell Pants:**

Made of a waterproof/breathable material, your lightweight shell bottoms should have full or hip-length side zips. This garment should be extremely lightweight and packable. A zipper fly is a nice optional luxury.

**Weight:** 8 - 16oz / 227 – 453 grams

**Materials:** eVent, Gore-tex, h2No, or similar

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### **Mid-weight Insulation Jacket:**

A warm puffy jacket with an optional hood. These come in many shapes, sizes and temperature ratings and are often called "belay jackets." If you tend to get cold easily, opt for a slightly warmer and more substantial parka.

**Weight:** 20 - 40oz / 566 – 1133 grams

**Fill Materials:** Primaloft, down

**Shell Materials:** nylon, epic,

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eVent

**Shell Materials:** nylon, epic,

**Examples:** Patagonia DAS Parka, Montbell Flatiron Parka

**Mid-weight Fleece/Schoeller/Leather Gloves:**

The most desirable glove is one that is comfortable and dexterous, so that it can be worn all day. It should be durable enough (leather palms) to handle ropes, ice axes, and a bit of rock scrambling. Choose a mid-weight model.

**Weight:** 4 – 8 oz / 110 – 200 grams

**Materials:** softshell, windstopper fleece, leather or similar

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**Beanie Hat/Toque:**

Bring a warm hat that covers your ears.

**Weight:** 2 – 4oz / 56 – 112 grams

**Materials:** fleece, wool, windstopper, or similar

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**Sun hat/Sunglasses:**

A baseball cap or visor. Models with a “tail” provide increased sun protection.

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**Socks:**

Bring two or three complete changes. Some hikers prefer to wear a very thin liner sock underneath a thicker hiking/mountaineering sock. Adjust your sock system ahead of time to perfect your boot fit. No cotton.

**Materials:** wool, synthetic

Own	Need

**Gaiters**

Ankle high gaiters are perfect for keeping out scree and snow. Check the fit of the gaiter to your boot in advance.

**Weight:** 4 – 12 oz / 110 – 340 grams

**Materials:** Schoeller, nylon, Cordura

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**Backpacking Boots:**

Regular hiking boots or low cut trail shoes are fine. High top, lightweight mountaineering boots or heavyweight-hiking boots are Ok as well. Leather/nylon combination is fine as long as they offer good ankle support. Some of the trek is on very rough and rocky trails. Please break these in thoroughly before your expedition.

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**Examples:** Kayland Apex Rock, La Sportiva Trango S, Garmont Tower GTX

**NOTE:** *There are many of makes and models out there and not all are created equal. Please consult with our Equipment Shop if you are uncertain*

## Camping Equipment

### Tent:

A lightweight 3-season two-person tent is recommended. It should be able to withstand intense rainstorms. Single-wall models are lighter, but suffer from more condensation than heavier double wall models. Generally, your shelter should weigh no more than 3 lbs. per person.

**Weight:** 3.5 – 5.5lbs / 1.6 – 2.5 kg

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### Sleeping Bag:

Rated to around 25°F from late June to mid September. Bring a 15° to 20° for early and late season trips. Down is less weight and bulk, but more expensive and it requires more care to keep dry. To help keep your sleeping bag dry, bring an extra large garbage bag with which you can line your sleeping bag stuff sack and use for storage in the tent.

**Weight:** 16 – 42 oz / 453 – 1200 grams

**Materials:** Down, Primaloft, Polarguard 3D

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### Compression Stuff Sack:

Used to shrink your sleeping bag into the smallest size possible.

**Weight:** 2-4 oz / 56 – 110 grams

**Materials:** SilNylon, eVent, or similar

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### Sleeping Pad:

You will likely camp on dirt during this course. Bringing two pads is recommended-- preferably a lightweight inflatable pad and a closed cell foam pad. If bringing only one pad, look for one with an insulating "R-value" of approximately 4. Please bring a patch kit for inflatable pads.

**Weight:** 8-20 oz / 225 – 565 grams

Prolite 4

**Example:** Thermarest

Own    Need

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### Internal Frame Pack:

65-85 Liters is ideal. It should be comfortable for carrying loads up to 50lbs. Make sure it will hold all of your personal equipment with room to spare for your share of the group equipment that will be divided during your course.

**Weight:** 3.0 - 6.5lbs / 1.6 – 2.9 kg

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### Eating Utensils:

Spoon: Bigger is better. Lexan is lighter, but metals spoons are more durable.

Thermal mug: 16-20oz with a lid. Optional.

Bowl: A lightweight Tupperware-type bowl is recommended. The new, ultra-light folding plastic contraptions are excellent.

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**Hydration:**

3 liters of water capacity minimum. One solid 32oz water bottle, like a one-quart Nalgene, is required. Hydration bladders with a hose are recommended.

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**Water Purification:**

Bring tablets or liquid purification. Filters are overly heavy and should not be used.

**Examples:** Aqua Mira, Potable Aqua

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**Food:**

Provided. Feel free to bring a pound or two of your favorite snacks, if desired.

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**Personal Medical Kit:**

Please include duct tape, moleskin, bandaids, blister care supplies, and prescriptions at a minimum.

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**Personal Toiletries:**

Bring a toothbrush, toothpaste, floss, etc. Bring half a roll of toilet paper or less. Travel sized containers are excellent.

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**Hand Sanitizer:**

Any alcohol based product for hand sanitizing work well.

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**Sunscreen:**

With SPF 30 or higher. A couple of 1 oz. tubes are adequate. Several small containers are better than one large one.

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**Own    Need**

**Lip Protection:**

Bring 2 containers/applicators with the highest SPF available. Some models of chapstick have SPF 45 or higher.

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**Sunglasses:**

Choose a model with 100% UVA/UVB protection. If you have an extra pair, bring them too. Those using contact lenses should bring a pair of prescription glasses if available.

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**Garbage Bags:**

Bring two or three large ones to line your backpack and to pack out garbage. Trash compactor bag, if available, are more durable.

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**Headlamp:**

High output LED models are preferred over older halogen models. Bring one set of extra batteries. Flashlights are not acceptable.

**Examples:** Petzl Tikka XP, Black Diamond Spot

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**Repair Kit:**

At a minimum this kit should include a Thermarest repair kit (for Thermarest pad users), 10 to 20 feet of lightweight nylon cord, small sewing kit, duct tape (wrapped on water bottles or trekking poles), and a pack waist buckle.

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**Multitool:**

Bring one of you have one. Any multitool similar to a Leatherman is great. One can be shared amongst tent-mates.

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**Optional Equipment**

The items listed below are not required, although many are nice "luxury" items that can make your course more enjoyable. Remember that a few ounces here and there add up to extra pounds on your back and knees during your course.

**Handiwipes/Wet Wipes:**

The mountain shower. For personal hygiene and general use.

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**Bandana:**

A cotton bandana has many uses on the mountain.

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**Pee Bottle:**

A nice luxury for those cold nights. 1-quart size minimum. A collapsible 2L Nalgene is recommended. If you choose to bring one of these, use it carefully and make sure the capacity is adequate. Label your pee bottle well. Women should also bring a pee funnel; Freshette makes a tried and true model.

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**Entertainment:**

Books, cards, are great for evenings in the tent. iPods are popular.

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**Own    Need**

**Ear Plugs:**

Defense against snoring and high winds in the area.

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**Camera:**

We recommend a small point-and-shoot cameras that can easily be carried in an outside pocket or small case outside your pack. If you can't comfortably and safely carry your camera outside your pack, even in bad weather, you'll miss the best photo opportunities. Though some climbers bring them, SLR cameras are not recommended because of weight and bulk. If bringing a digital camera, consider your battery needs.

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**T-shirt:**

Light colors are best. This shirt can be synthetic or cotton. If you plan to hike in it, synthetic is better. A cotton shirt can be a nice break from the

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**Shorts:**

Lightweight shorts are nice for warm days.

**Weight:** 4 - 8oz / 110 - 227 grams

**Materials:** Nylon

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**Buff:**

Buffs are a multifunctional neck gaiter that can substitute for a lightweight balaclava.

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**Foot Powder:**

A very small bottle will allow you to treat your feet daily, keep them dryer, extend the life of your socks, and help you avoid blisters/rashes from chronic wet feet.

**Weight:** 1 - 2oz / 28 - 56 grams

**Examples:** Gold Bond, Dr. Scholls

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**Sandals/Flip flops:**

These are great for relaxing in camp in the evenings.

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**Shower Supplies:**

For use after the trip. This will be left in your vehicle during the trek.

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**Post-Climbing Clothing:**

A clean set of clothing is an excellent item to leave in the vehicle to change

## **The Equipment Shop at the American Alpine Institute**

The Equipment Shop at the American Alpine Institute provides clothing and equipment for purchase, rental gear, and advice. Shop staff members are great climbers themselves and deeply involved in evaluating and testing gear. They are considered by many outdoor gear manufacturers to be the most expert in the country. They thoroughly understand the needs of climbers who will be rock climbing, ice climbing, mountaineering, or exploring the world on international expeditions. Please consider our staff members a part of your resource team in preparing for your trip. AAI Equipment Specialists are on hand to consult with you on specific gear needs, to answer questions on the latest equipment and innovations, and to make recommendations on best choices of clothing and equipment. They can assure that you are equipped with the best possible gear for your climbs. And if you have any difficulty determining if some particular items of clothing or equipment you already own will serve you well on a particular trip, they can help you answer that question.

### **Guides Choice International Field Testing**

The Equipment Shop at the American Alpine Institute also administers AAI's prestigious Guide's Choice Award. Equipment and clothing that have been awarded the Guides Choice designation have proven to be the top item in their product category. The awards are made on the basis of excellence in design, performance, and durability demonstrated in rigorous international field tests carried out by the professional guides of the Institute. All of the products at the Equipment Shop and on its website, [guideschoice.com](http://guideschoice.com) have been field-tested or have been vetted and are in the process of being field-tested.

### **Call or E-mail the Equipment Shop for Advice or Gear**

Please feel free to contact us and to let us help you get ready for your climbing trip. Our staff members are experts in the field, and the items of gear that we rent and sell are the best made in terms of design, performance, and durability. Your comfort and safety depend on being well equipped. Whether you get your gear from us or just get advice, we're here to help you prepare.

**Call:** (360) 671-1570

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