

Equipment List

Lightweight Backpacking

Welcome to NOLS Rocky Mountain!

The goal of this course is to responsibly camp and travel in a mountain environment with the lightest backpack possible. NOLS is a school, and we will be teaching the essentials of lightweight camping along with our standard curriculum.

Please be aware this is a very specialized expedition focusing on a unique type of wilderness travel. By necessity, we are going to be very strict with *every* item that goes into the backpack. This equipment list is the culmination of a lot of testing and research in real-life mountain conditions by the staff here at NOLS.

To ensure success, you'll be required to purchase or bring some very specific lightweight gear. NOLS Rocky Mountain (RM) will carry *some* of this gear for purchase (see end of document), but the majority of this specialized gear will be your responsibility to purchase before arriving in Lander. If you already own items on the list and you'd like to bring them, please do. Your instructors will review your gear with you and help you decide if it is appropriate for the course. Remember, the ultimate goal is a full backpack (that's with food, water, fuel, personal and group gear) that weighs less than 30 pounds!

With the lightweight goal in mind, we created a detailed list below, which includes the weight allowances for each piece of gear. These numbers are important, please make sure each item matches (or weighs less than) the weights listed. Every ounce counts towards the total weight of your pack. Do research, read labels and ask questions.

We highly recommend that you purchase an 11 lb. postal scale (typically \$25-30). The scale helps to calculate the weight of your items. You can weigh your gear on your personal scale ahead of time, or use our scales during your issue day to see if items are weight appropriate.

If you feel like you are likely to get cold more than the average person, there are several recommended warmer options noted below (see cold sleeper extras). Also, if you are very tall or very short, your final weight total may be affected by a few ounces.

This equipment list is broken down into three sections. The *first* section includes all the equipment that you will need for the course along with a description, gear suggestions, and the required maximum weights. The *second* section is a checklist designed to aid you in your packing and shopping endeavors. The checklist tool illustrates what gear we have for sale at our location, along with some gear suggestions sold by Backpacking Light (BPL) and GoLite. (The gear suggestions are meant as a reference only. There are many gear and apparel choices in the lightweight world; too many to name here.) The *third* section is a detailed list of items we sell at NOLS Rocky Mountain. We cannot guarantee that each item will be available due to student demand and inventory availability. We will do our best to stock a full inventory. Please call us if you have any questions, concerns or curiosities.

Resources: www.golite.com, www.granitegear.com, www.outdoorresearch.com, www.montbell.com, www.gossamergear.com, www.patagonia.com, www.backpackinglight.com, www.mountainhardwear.com and other great lightweight gear resources.

If you have any questions or if you would like more information regarding any of the items in the Equipment List, please contact Rocky Mountain Outfitting at: | (307) 332-1422 | outfitting@nols.edu | www.nols.edu/lander/outfitting |



Lightweight Required Equipment:

1. Hiking shoes: 1 pair (less than 36 oz). You'll need lightweight hiking or trail running shoes that have adequate stability and breath-ability. High top shoes are acceptable, but not recommended. Leather hiking boots will *not* be allowed. If fit is of concern, please seek expert advice from a reputable retailer. The fit should be slightly roomy, one half size larger than your normal shoe size to accommodate swelling from altitude and exercise. This will also help to avoid blisters and sore feet. Before arriving to your course, take some time to do a few day hikes to make sure your shoes fit comfortably. The shoes listed below are appropriate for the course. Keep in mind that this list is not exhaustive and shoes with similar characteristics and weight are acceptable. The following are in no particular order.

- *Montrail*: Vitesse, Hardrock, Continental Divide
- *La Sportiva*: Sonic TR, Rajas, Lynx
- *Salomon*: XA Pro 3D Ultra
- *Vasque*: Aether tech
- *Asolo*: Outrider, Switch
- *GoLite*: Storm Dragon, Trail fly, Spike Tail
- *Inov8*: Any of the trail-designated models of Inov8 shoes are excellent choices.

2. Sleeping bag (less than 29 oz): Bring a lightweight sleeping bag rated to 40 degrees F. The list below shows recommended bags by GoLite and BPL. The following are in no particular order.

- GoLite Adrenaline Bag / down / 28 oz / \$325 (good choice for cold sleepers)
- GoLite Adrenaline 40 Bag / down / 19 oz / \$250
- GoLite Ultra 20 Down Quilt / down / 13 oz / \$225
- GoLite Venture 40 Bag / down / 21 oz / \$250
- BPL Cocoon Pro 90 Quilt / synthetic / 13.7 oz / \$219

3. Sleeping pad (less than 11 oz): Bring a lightweight inflatable (or closed cell foam) sleeping pad that is sized for your torso. We carry the Bozeman Mountain Works TorsoLite pad (10.3 oz) and MontBell makes an inflatable pad called the U.L. 90 (10oz), which is excellent as well.

4. Backpack (less than 24 oz): Bring a lightweight backpack with approximately 3100 cubic inches of capacity. We carry the GoLite Jam2 pack (22 oz). Other options include the ULA Conduit, Granite Gear Virga, Mountain Laurel Designs Exodus, and Six Moon Designs Comet. If you prefer a light internal frame, consider the SMD Comet with the optional stays. Packs sewn entirely of Sil-Nylon are not recommended. Pack torso sizes vary significantly between manufacturers. An 18-inch torso length from one manufacturer may be 2 inches longer than another manufacturer's pack of the same stated torso length. We recommend that you speak with a manufacturer's customer service department and consult online reviews prior to making your purchase.

5. Insulated jacket (less than 16 oz): You will be glad to have a high quality puffy jacket, down or synthetic fill. GoLite, MontBell, Patagonia and Mountain Hardwear make great lightweight options. The GoLite INFERNO jacket (15 oz) is excellent. Also recommended, the BPL Cocoon 60 pullover and parka (approx 13 oz).

6. Rain pants (less than 5 oz): Bring lightweight breathable rain pants. These do *not* need to be fully waterproof. Check out GoLite, Outdoor Research, and MontBell for the lightest options. GoLite Reed (5 oz) recommended.

Note: Depending on current weather conditions around your course dates, we may recommend leaving rain pants behind. However if it is a wet season they are essential.

7. Socks (less than 1.5 oz per pair): Bring 3 pairs of short (crew length), lightweight running-style socks that fit comfortably with your hiking shoes. These should be synthetic or wool.

8. Toiletries (less than 6 oz total): Toothbrush, toothpaste, comb, tampons. Very small travel or sample sizes are essential.

9. Wind jacket (less than 4 oz): A lightweight, breathable wind shirt or jacket, a hood is recommended. The Patagonia Houdini Jacket (3.7 oz), MontBell U.L. wind parka (3.3 oz), the GoLite Ether Jacket (4 oz) or the GoLite WISP wind shirt (3 oz) are great examples.



Lightweight Required Equipment (Continued):

10. **Rain parka (less than 14 oz):** Bring a lightweight waterproof, breathable rain jacket. We recommend the GoLite Virga (8 oz) or the Phantasm (10 oz), MontBell Particle (11.8 oz.), and the Mountain Hardwear Epic Jacket (14 oz).
11. **Long underwear bottoms (less than 7 oz):** Lightweight synthetic bottoms such as GoLite Drimove bottom (5.5 oz), the Patagonia Capilene 1 and the Mountain Hardwear Thermadry Tight (7 oz). Note: Consider a lightweight synthetic puffy pant. Options are available from BPL, MontBell and others. These are a favorite of instructors and provide excellent warmth to weight ratios.
12. **Long sleeve synthetic top (less than 6 oz):** Lightweight long sleeve top such as Patagonia Capilene 1 (5.5 oz) and the Mountain Hardwear Hyperdry Zip T (6 oz). Note: Our Instructors often wear a light nylon button up long-sleeve hiking/trekking shirt. These shirts provide good sun protection, and many come with bug resistance impregnated into them. The sleeves can be rolled up in warm weather and down in cooler weather offering versatility.
13. **Warm hat (less than 2 oz):** Needed for warmth.
14. **Liner gloves (less than 1.5 oz):** You will need one pair of very thin liner gloves, synthetic or wool.
15. **Titanium mug (less than 3 oz):** A super lightweight titanium mug/bowl is excellent for eating, drinking. We recommend the BPL Firelite 550ml (2.5 oz). A less expensive choice is a simple plastic cup.
16. **Spoon (less than 1.5 oz):** Titanium (.75 oz) or Lexan (1.1 oz) spoons work well.
17. **Water container (less than 3 oz):** You will need at least 1.5-liter capacity for your trip. Lightweight collapsible containers with or without hoses work great. Recommendations include: a Platypus 2+ liter bottle (1.3 oz) or two one-liter plastic soda bottles (or Gatorade bottle). Nalgene plastic bottles are too heavy and not recommended.
18. **Lip balm (less than 1 oz):** Stick, cream or tube type moisturizing lip balm with Sun Protection Factor (SPF) 15 or greater.
19. **Sun block (less than 2 oz):** One 2 oz bottle with Sun Protection Factor (SPF) of 30 or greater.
20. **Bandana (less than 1 oz):** Useful for a variety of purposes. Silk is a great lighter weight choice. Women find two useful.
21. **Sun hat (less than 3 oz):** A baseball cap is adequate for sun protection; a floppy safari style is great too, and nylon for the rain is preferred. Note: avoid waterproof breathable rain hats as they will be too warm for daily wear.
22. **Sunglasses with retainer (less than 5 oz):** Lenses should be dark and block at least 100% ultraviolet and 95% infrared light. A simple retainer (such as Chums, Cablz, or Croakies) is very helpful in the mountains. You can find these at any outdoor or eye glass store.
23. **Headlamp (less than 3 oz):** Bring a lightweight LED headlamp. Examples are Photon Freedom Microlight (.22 oz) and Petzl E-Lite (.95 oz with batteries) or the Black Diamond Ion (1.06 oz with batteries).
24. **Sports bra (less than 4 oz):** Women will need one synthetic sports bra.
25. **Watch (less than 3 oz):** Water-resistant. An alarm is necessary for early morning starts.
26. **Lighter: (less than 0.5 oz)** A small (1 inch) disposable lighter is suggested.
27. **Plastic trash bag (less than 3 oz):** You will need one small trash compactor bag (3 mil) for making packs waterproof. You will find these at most grocery stores.
28. **Gaiters (less than 5 oz):** A tiny, lightweight gaiter is recommended, such as Dirty Girl Gaiters, Outdoor Research Low Gaiters or REI Mistral Gaiters. Tall, knee length gaiters are *not* appropriate.



Lightweight Optional Equipment:

- 29. Insulated pants – synthetic puffy pants (less than 8 oz): *Optional*** (A good choice for cold sleepers). You can substitute a pair of lightweight polypro long underwear bottoms for a pair of lightweight synthetic puffy pants instead. If you sleep in your synthetic puffy pants, you may consider bringing a lighter rated sleeping bag. We recommend the BPL Cocoon UL 60 pants (7 oz).
- 30. Shorts (less than 8 oz): *Optional***. Any quick drying pair of lightweight nylon shorts, with or without built-in underwear. These can double as a bathing suit. If you choose *not* to take shorts, you'll need a breathable pair of hiking pants, see no. 38 on the list below.
- 31. Short sleeve synthetic top (less than 4.5 oz): *Optional***. Examples are GoLite Drimove Lite (4 oz) or Patagonia Capilene 1 (4.5 oz). If you choose to go without a short sleeve shirt, make sure the your long sleeves roll up comfortably.
- 32. Underwear (less than 2 oz): *Optional***. One pair of silk weight or polyester boxers or briefs is all you'll need. Females can bring cotton, if preferred. NOLS stocks Patagonia Capilene boxers and briefs.
- 33. Trekking poles (less than 15 oz): *Optional***. If you have trekking poles, and want to hike with them, please bring them with you. They are not essential or required. If you are purchasing trekking poles prior to your course, we recommend the lightest pair you can find, usually made from carbon fiber. Adjustable poles are nice.
- 34. Stuff sacks (less than 4 oz total): *Optional***. A few small stuff sacks for organizing gear can be very helpful. Please choose the lightest fabric possible (Silnylon or Sail Cloth), such as GoLite's Ultra Light Stuff Sack or BPL's Pro Series.
- 35. Balaclava (less than 2 oz): *Optional***. Adds extra warmth with lighter sleeping bags. BPL Cocoon Balaclava recommended for cold sleepers (a synthetic puffy head cover). Otherwise, any lightweight balaclava will do. A balaclava can be worn as a hat, offering versatility and good warmth to weight ratios.
- 36. Mosquito headnet (less than 1 oz): *Optional***. Nice for buggy terrain and highly recommended. Simple mosquito headnets with minimal extras are preferred. Headnets with extra wire hoops are not allowed. Mosquito headnets make an excellent lightweight stuff sack.
- 37. Camera (less than 10 oz): *Optional***. Yup, it's beautiful out there. Try and avoid bringing *large or heavy* cameras. However, if you aren't sure, bring it along and your instructors will help you decide whether or not to bring it. An extra battery is a good idea.
- 38. Hiking pants (less than 13 oz): *Optional***. Patagonia Simple Guide Pants or Stretch Jackalope Pants (both 13 oz), or Mountain Hardwear's Barkley or Canyon Pants (both 10 oz). It's okay to take *only* long pants and not take shorts. These need to be breathable and synthetic. Avoid black - it's hot in the sun. We recommend the GoLite Traverse Pant (9 oz) or a nylon taffeta pant.
- 39. Insulating vest (less than 14 oz): *Optional***. Both GoLite and BPL have warm vests, down or synthetic for extra insulation (a good choice for cold sleepers).
- 40. Bivy sack (less than 6 oz): *Optional***. BPL sells several different lightweight bivouac sacks to fit over your entire sleeping bag, adding a little extra warmth (a good choice for cold sleepers).



Lightweight Backpacking Required Equipment Check-List

No.	Name	Available thru GoLite or BPL	Available at NOLS RM for purchase *	Comments	Required	Maximum Weight In ounces	Check List
1	Hiking shoes	GoLite	No	Low and synthetic	Yes	36 oz	
2	Sleeping bag	GoLite & BPL	Yes- purchase	Down or synthetic	Yes	29 oz	
3	Sleeping pad	BPL only	Yes- purchase	Torso length	Yes	11 oz	
4	Backpack	GoLite & BPL	Yes- purchase	Approximately 3100 cu. inches	Yes	24 oz	
5	Insulated jacket	GoLite & BPL	Yes- purchase	Down or synthetic	Yes	16 oz	
6	Rain pants	GoLite & BPL	Yes- purchase	Lightweight and breathable	Yes	5 oz	
7	Socks	No	No	3 pairs, synthetic or wool	Yes	1.5 oz per pair	
8	Toiletries	No	Yes- purchase (toothpaste only)	Minimize everything	Yes	6 oz total	
9	Wind jacket	GoLite only	Yes- purchase	Hood recommended	Yes	4 oz	
10	Rain parka	GoLite only	Yes- purchase	Waterproof	Yes	14 oz	
11	Long undie bottoms	GoLite only	Yes- purchase	Lightweight fabric	No (a)	7 oz	
12	Long sleeve synthetic top	GoLite only	Yes- purchase	Lightweight fabric	Yes	6 oz	
13	Warm hat	GoLite & BPL	Yes- purchase	Warmth	Yes	2 oz	
14	Liner gloves	BPL only	Yes- purchase	Synthetic or wool	Yes	1.5 oz	
15	Titanium mug	BPL only	Yes- purchase	Can be used in many ways	Yes (b)	3 oz	
16	Spoon	BPL only	Yes- purchase	Simple	Yes	1.5 oz	
17	Water container	BPL only	Yes- purchase	At least 1.5 liter capacity	Yes	3 oz	
18	Lip balm	No	Yes- purchase	At least SPF 15	Yes	1 oz	
19	Sun block	No	Yes- purchase	At least SPF 30	Yes	2 oz	
20	Bandana	No	Yes- purchase	Simple cotton or silk	Yes	1 oz	
21	Sun hat	GoLite & BPL	Yes- purchase	Synthetic preferred	Yes	3 oz	
22	Sunglasses	No	Yes- purchase	With simple retainer	Yes	5 oz	
23	Headlamp	No	Yes- purchase	LED with batteries	Yes	3 oz	
24	Sports bra	No	Yes- purchase	Synthetic	No	4 oz	
25	Watch	No	Yes- purchase	Simple w/ alarm	Yes	3 oz	
26	Lighter	No	Yes- purchase	1 inch disposable	Yes	0.5 oz	
27	Plastic trash bag (compactor)	No - buy at grocery store or NOLS RM	Yes- purchase	Used for waterproofing pack contents	Yes	3 oz	
28	Gaiters	No	Yes- purchase	Low style	Yes	5 oz	



Lightweight Backpacking Optional Items Check-List							
No.	Name	Available thru GoLite or BPL	Available at NOLS RM for purchase *	Comments	Required	Maximum Weight In ounces	Check List
29	Insulated pants	BPL only	No	Puffy synthetic	No	8 oz	
30	Shorts	No	Yes- purchase	Simple, quick dry	No (c)	8 oz	
31	Short sleeve synthetic top	GoLite only	Yes- purchase	Lightweight fabric	No	4.5 oz	
32	Underwear	Yes	Yes- purchase	One pair only	No	2 oz	
33	Trekking poles	BPL only	Yes- purchase	If you like 'em, bring 'em!	No	15 oz	
34	Stuff sacks	GoLite & BPL	Yes- purchase	2 or 3 medium sized	No *	4 oz total	
35	Balaclava	GoLite & BPL	Yes- purchase	Extra warmth	No	2 oz	
36	Bug headnet	BPL only	Yes- purchase	Buggy camping	No *	1 oz	
37	Camera	No	No	Lightweight please	No	10 oz	
38	Hiking pants	No	No	Instead of shorts	No (d)	13 oz	

Lightweight Backpacking Cold Sleeper Extras							
No.	Name	Available thru GoLite or BPL	Available at NOLS RM for purchase *	Comments	Required	Maximum Weight In ounces	Check List
39	Insulating vest	GoLite and BPL	No	Down or synthetic layer for warmth	No	14 oz	
40	Bivy sack	BPL only	No	Sleeping warm	No	6 oz	

**** See the list below for specific items that NOLS Rocky Mountain Outfitting sells. ****

(a) Long underwear bottoms are *not* required if you have the BPL Cocoon puffy pants. Or, if you have a combo of long hiking pants and rain pants.

(b) Titanium is expensive. A less expensive option for an eating/drinking vessel is a simple plastic mug (less than 3 oz).

(c) Shorts are *not* required if you choose to wear only long hiking pants and also carry rain pants- see (d).

(d) Some students take only long pants as opposed to shorts. If you do bring pants, lightweight quick dry synthetic are recommended. We suggest the GoLite Traverse Pant (9 oz).

*** Items are not required but highly recommended by students and instructors.**



Items NOLS Rocky Mountain Outfitting Sells

Item	Brand	Weight	Cost
○ Rain parka	Mountain Hardwear Epic Jacket	14 oz	\$100
○ Rain pants	GoLite Reed Pants	5 oz	\$70
○ Wind jacket	GoLite Ether Jacket	4 oz	\$70
○ Insulated/ puffy jacket	MontBell Alpine Jacket	16 oz	\$175
○ Sleeping bag	GoLite & MontBell Down Bag 20 degrees	29 oz	\$300
○ Sleeping pad	Bozeman Mtn. Works Torso Lite	11 oz	\$70
○ Low gaiter	OR Flex-tex Low Gaiter	4.8 oz	\$29
○ Long underwear top	Mountain Hardwear Thermadry Zip T	6 oz	\$45
○ Long underwear bottoms	Mountain Hardwear Thermadry Tight	7 oz	\$38
○ Backpack	GoLite Jam2 pack	22 oz	\$100
○ Titanium mug	BPL Firelite 550 ml	2.5 oz	\$30
○ Titanium spork	Vargo titanium spork	1 oz	\$13
○ Silnylon stuff sacks	GoLite or other brands	.75 oz	\$8
○ Water container	Platypus 1 liter option	.8 oz	\$7.95
	Platypus 2 liter option	1 oz	\$9.95
○ Lighter	mini Bic lighter	0.5 oz.	\$1.25
○ Headlamp	Petzl E-lite	.95 oz	\$29.95
○ Plastic trash bags to line pack	Compactor bags	3 oz	\$.50
○ Mosquito headnet	Log House	1 oz	\$6.95

Group Gear

All shared group equipment necessary for your expedition, such as lightweight shelter, cook gear, stoves, first aid kits, blister kits, repair kits, navigation equipment, etc. will be supplied by NOLS. Again, if you already own items on the list and you'd like to bring them, please do! Your instructors will review the gear and help you decide if it is appropriate for the course. Remember, the ultimate goal is to travel light!

