

NASA Leadership Expedition Equipment List

Welcome to NOLS!

Learning how to choose the right equipment for your adventure is an essential part of the NOLS curriculum. We believe that you don't need to own a lot of expensive equipment or clothing to live and travel comfortably outdoors. This document is designed to help you make smart decisions about what you take on your course, and where you can get those items from. We hope this document will help you feel more confident about entering your course.

NOLS offers items to use and purchase in our equipment departments, in order to help support you getting the gear you need. Use this list to guide your decisions on what to purchase from NOLS, and what to bring with you from home.

Equipment Fees

Certain NOLS gear is included in your course to borrow for no charge. You can see this list below both on page 2 under items to borrow and in the equipment list (labelled as NOLS Provides). If you would like to purchase any gear outside of these items, you will be billed for those items post-course. Approximate costs are listed in the equipment list under the buy column.

Your course starts remotely and not at a NOLS campus, therefore any gear you want to purchase, or borrow will need to be requested ahead of time using the [Gear Request Form](#). You can also find this form on your student dashboard.

Questions?

Contact your Admission Officer if you have any questions or would like further information about the equipment list.

Feedback?

NOLS is trying to update this list to be more welcoming and effective. If you are willing to provide some feedback to help our effort please take this [survey](#)

How to Use This Document

First, there is an at-a-glance **Packing Checklist** for your expedition below. This summarizes all items that you will need for your course.

Next, scroll further for a more detailed **Equipment List** that includes descriptions for each item, their availability at the campus, their purchase and rental prices (if applicable), as well as suggestions to help you decide what you want to bring from home, and what you want to buy/rent from NOLS.

Use both lists to help you prepare for your expedition.

Here are some thoughts to guide you as you pack:

- **First, use what you already own!** You'll be the most comfortable in the clothing you already have, use this guide to determine what you have at home that may work for your course. When in doubt bring it and your instructor will help you determine if it will work or not. Anything you decide you don't want to bring into the field can be left in storage.
- **Second, Key items that you will get from NOLS.** Participants will be able to borrow the following select gear for the duration of the expedition. These will be distinguished in the equipment list as: **NOLS will provide.**
 - Windshirt
 - Insulating top layer (puff jacket)
 - Windpants
 - Small stuff sacks (3)
 - Plastic trash bags (3)
 - Backpack
 - Sleeping bag
 - Compression stuff sack
 - Sleeping pad
 - Sit pad
 - Lighter
 - Hand sanitizer
 - Water treatment system
- **Third, PURCHASE or RENT items from NOLS.** Every campus offers a variety of equipment, clothing, and personal care items for purchase. Approximate price ranges for the items we sell are listed below - you can use these prices to help you decide whether to purchase items ahead of time. If there is an X in a column it means it is not available.
- **Fourth, go shopping before your course.** A few options: REI or a local gear store, Target, Wal-Mart, and other department stores, Thrift stores, and Online. We encourage you to keep the tags/receipts for all purchases, so that you may later return any items you don't use.



Packing Summary Checklist

Upper Body Clothing	Lower Body Clothing	Head, Hands & Neck
☐ Long underwear top (base layer) ☐ Fleece sweater/jacket (middle layer) ☐ Insulated/puffy jacket ☐ Wind jacket/shirt ☐ Rain jacket ☐ Sports bra (1-2) ☐ T-shirt Optional: ☐ Sun hoody	☐ Long underwear bottom (base layer) ☐ Fleece/puffy pants (middle layer) ☐ Wind/hiking pants ☐ Underwear (2-3 pairs) Optional: ☐ Shorts	☐ Baseball/sun hat ☐ Warm hat/beanie ☐ Gloves/mittens Optional: ☐ Neck gaiters ☐ Mitten shells ☐ Religious headwear
Feet	Packs	Sleeping Gear
☐ Hiking boots ☐ Camp shoes ☐ Wool socks (3-4 pairs) Optional: ☐ Gaiters	☐ Backpack ☐ Stuff sacks (3) ☐ Trash bag liners	☐ Sleeping bag ☐ Sleeping mat ☐ Compression sack ☐ Ground Cloth
Misc.		Toiletries
☐ Bowl & Spoon ☐ Water bottle (2) ☐ Headlamp & Batteries ☐ Bandana (1-2) ☐ Watch ☐ Lighter ☐ pen/pencil & Journal ☐ Sunglasses & keeper strap ☐ Prescription glasses and/or contacts if used	Optional: ☐ Book or e-reader ☐ Trekking poles ☐ Camera ☐ Camp chair ☐ Hydration system (alternative to water bottles) ☐ Pocket knife	☐ Dental care (toothbrush, floss, toothpaste, etc) ☐ Skincare ☐ Hair care ☐ Sunscreen ☐ Lip balm ☐ Menstrual products ☐ Personal medications
<i>Make sure to reference the equipment list for which items you are able to rent/buy from NOLS. BOLDED items NOLS will provide for you at no charge.</i>		

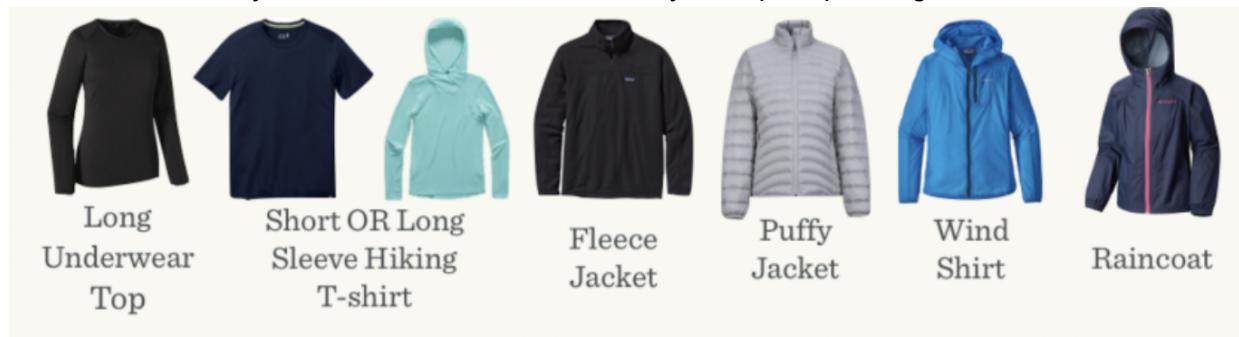


Equipment List - Item Descriptions and Notes

Upper Body Clothing

Your clothing will form a layering system of base layers, mid-layers, and shell layers. The base layers are designed to wear close to your skin and provide moisture management, light insulation, and sun protection. Warmer mid-layers are for insulation and need to fit well together to give you options as conditions change. On the outside, wind and rainproof jackets prevent heat loss by cutting wind, rain, and snow. Look for synthetic materials that dry quickly and retain their warmth when wet, which cotton does not do.

Our advice? Bring the non-cotton sweaters, fleece jackets, athletic clothes, and synthetic layers you think might work. We'll advise you on the best combination for your trip, depending on conditions.



Item	Rent	Buy	Notes
Long Underwear Top (base layer)	X	\$70	Mid-weight long underwear top, wool or synthetic (e.g. Patagonia Capilene, Terramar Performance, Icebreaker Body Zone), Hoods encouraged
Fleece Jacket/Sweater (middle layer)	X	\$50-180	Fleece jacket (e.g. Polartec 100 or 200, Capilene 3 or 4), or a wool sweater. For use in cooler or windy conditions.
Puffy Jacket (Insulating layer)	NOLS Provides	\$95 -220	A warm “puffy” jacket that fits over your base/mid layers, either down or synthetic fill. On May courses, we recommend 2 “puffy” layers, one lighter jacket (or fleece jacket, see above) and one heavier jacket that has synthetic or down fill. Lighter puffy jackets include Mountain Hardwear Compressor, Montbell Thermawrap, Patagonia Nano Puff. Heavier puffy jackets include North Face Morph, Patagonia Das Parka.
Wind shirt	NOLS Provides	\$55 -100	A lightweight, breathable, durable nylon wind shell.
Rain Jacket	X	\$100 - 150	Durable, waterproof, jacket with hood. Waterproof-breathable fabrics (e.g., Gore-Tex, H2No, etc.) are both acceptable. It is important that your rain jacket fits well over all your base and insulating layers
Sports bra (1-2)	X	\$40	Lightweight bras that offer adequate support. Synthetic or natural fibers that dry quickly are preferable.



T-shirt	X	\$25-50	A lightweight synthetic or wool t-shirt
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Optional Items

Sun Hoody	X	\$60-70	A lightweight synthetic, wool, or bamboo hoody that provides both sun protection and as a base layer.
Binder (1-2)	X	X	If you usually wear a binder or are planning to wear one during your NOLS course, make sure it allows you to breathe freely and doesn't cause pain or limit athletic activity.

Lower Body Clothing

Similar to your upper body clothing, you will be layering your lower body clothing and will most likely need 1–2 synthetic insulating layers (usually a base layer and, in early summer, a pair of warm pants). All must fit comfortably over each other so they can be worn simultaneously. If you tend to get cold easily, add a middle layer of mid-weight bottoms to the base layer and fleece or puffy pants.



Item	Rent	Buy	Notes
Long Underwear Bottom (base layer)	X	\$70	Mid-weight synthetic or wool bottoms (e.g. Patagonia Capilene, Terramar Performance, Icebreaker Bodyfit Zone), primarily used for sun protection on the water.
Fleece/Puffy Pants (middle layer)	\$12	\$60 - 200	Mid- or heavy-weight bottoms that fit comfortably over the base-layer bottoms for use in camp. Fleece pants or synthetic blend.
Wind pants/hiking pants	NOLS Provides	\$80	Nylon or synthetic pants. These should fit comfortably over lower-body base layers. Soft-shell fabrics are acceptable, but lightweight "running pants" are not durable enough.
Underwear (2-3 pairs)	X	\$20 - 35	Clean underwear is essential for backcountry hygiene and you will likely have opportunities for laundry on your course. Synthetic or natural fibers (non-cotton) are great options.

Optional Items

Nylon shorts	X	X	Loose-fitting nylon athletic or swim shorts.
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Head, Neck and Hand Layers

Equipment	Rent	Buy	Notes
Sun hat/Baseball hat	X	\$15-45	Must be wide-brimmed. A baseball cap works fine.
Wool or fleece hat	X	\$20 - 35	Warm, thick hat for cold nights. Should cover your ears. Wool or fleece are ideal.
Gloves/mittens	X	\$17 - 55	Lightweight/midweight gloves are encouraged.

Optional Items

Neck Gaiter/ Buff	X	\$22	Neck gaiters are synthetic pieces of multi-functional headwear (hat, bandana, neck warmer, etc.). Buff is a common brand.
Religious Headwear	X	X	Headwear associated with religious custom (Hijab, Pagri, Chunni, Yarmulke, etc.)
Hair Care Headwear	X	X	Wave cap, hair wrap, or bonnet whatever you are used to. Cotton, satin, or synthetics are all good.

Packs and Bags

An expedition backpack is a major purchase. If you don't already own one, we think you should rent ours, gain some experience, then make an informed decision after your course on what you might want to buy for future trips.

Equipment	Rent	Buy	Notes
Backpack	NOLS Provides	\$300	Our packs are large expedition models with a volume of 80 –100 liters. We recommend you rent one of our packs. If you bring a backpack, your instructors will examine it to determine its suitability for your course and route. It must have a volume of 80 –100 liters.
Stuff Sacks (2-3 small ones)	NOLS Provides	\$10-20	Small nylon sacks for organizing items in your pack
Trash Bag (2-3)	NOLS Provides	\$1	2 heavy-duty lawn-and-garden/contractor bags (48 gallon/3 mil) to help waterproof your sleeping bag and backpack.

Sleeping Gear

A sleeping bag is another major purchase. If you don't already own one, we think you should rent ours, gain some experience, and then make an informed decision after your course in what you may want for future trips.

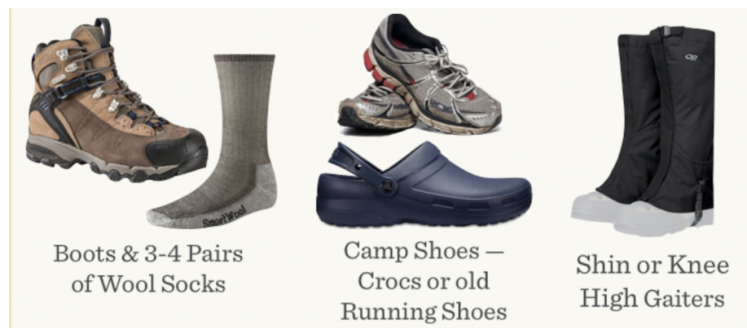
Equipment	Rent	Buy	Notes
Sleeping bag	NOLS Provides	\$220-350	Synthetic-fill bags (e.g. Thermolite, Thermal.Q, APEX, etc.) perform well in the variety of conditions we encounter on



			courses. A bag rated to 0° or 15°F. Fall and spring semester students will also need a separate bag for the winter section (synthetic filled bag rated to at least -20°F).
Compression sack	NOLS Provides	\$40	Stuff sack with compression straps designed to compress your sleeping bag when not in use
Foam or inflatable sleeping pad	NOLS Provides (foam)	\$35-220	Used for padding and insulation between sleeping bag and ground. Foam pads, which we rent, should be closed-cell and at least 3/8-inch thick and have at least an R-Value of 2.0. Inflatable pads, which we don't rent, work as well; Therm-a-Rest and REI are reliable brands.
Ground cloth	NOLS Provides	\$20	A nylon sheet to go between your sleeping pad and the ground. Highly recommended if bringing an inflatable pad.

Footwear

Your boots will be a critical piece of gear. If they aren't sturdy, don't provide enough support, or don't fit properly with wool socks, we won't let you use them. If you have any doubts about your footwear, feel free to check with us. See the **Boot Selection Guide** below for more advice and tips when shopping for boots.



Equipment	Rent	Buy	Notes
Wool socks (3-4 pairs)	X	\$13 -30	Must be synthetic or wool or a blend of both (no cotton/wool blends). Bringing a combination of mid to heavyweight wool socks is recommended for hiking and sleeping.
Hiking Boots	X	\$170-250	Sturdy, expedition backpacking footwear with adequate support for extended wilderness courses. See information at the end of the equipment list for more ideas about hiking footwear. Instead, some students shoes a lower profile hiking shoe, see optional items.
Camp shoes	X	X	Running, tennis, or cross-training shoes, in good condition, to wear around camp. Avoid expensive shoes.

Optional Items

Gaiters	\$5	\$50	Nylon boot attachment that protects the ankle from snow and dirt. Must be durable and large enough to fit over boots. Lightweight trail-running gaiters are not recommended. May/June courses will likely need gaiters. Courses in July may also need them.
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Hiking shoe	X	\$160	Some students appreciate having a low-top hiker or approach shoe (in place of boots) for the Canyons (eg. La SportivaTX4, Salomon X Ultra, Scarpa Crux).
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Toiletries

Self-care in the outdoors is an essential component of any expedition. Whatever systems you use to take care of yourself in your daily life can often be modified to the appropriate size/quantity for your course. Any starred (*) item is something that we sell at NOLS. Travel-size containers can be helpful in this process.

Equipment	Rent	Buy	Notes
Lip balm	X	\$3-5	Stick, cream, or tube-type moisturizing balm, SPF 15 or greater. Products with zinc provide superior protection.
Sunscreen	X	\$5-10	At least 3-6 oz., SPF 30 or greater. Products with zinc provide superior protection.
Dental Care	X	\$3-6	Whatever your oral hygiene system is (toothpaste*, toothbrush*, floss*, retainer, etc.), you can likely adapt it to your course using trial or travel size versions.
Skin Care	X	\$7	You may want to consider lotion* (preferably unscented) or Vaseline in 3-5 oz travel-sized bottles, wash cloth-sized pack towel for backcountry bathing, and ointment for scrapes if you are prone to scarring.
Hair Care	X	X	You may want to consider a comb* or brush*, bands*, chopsticks, headwrap, ties, or whatever your system is.
Menstrual products	X	\$5-35	Required if you menstruate. Bring the products that work well for you and slightly more supplies than you think you need. This might mean tampons*, pads*, a menstrual cup*, or some combo thereof.
Personal Medications	X	X	Any prescriptions/supplements that are part of your system should be brought in sufficient quantities.

Miscellaneous

Equipment	Rent	Buy	Notes
Bowl	X	\$7	A plastic bowl with a screw- or snap-on lid is handy.
Spoon	X	\$1-\$10	Lexan spoons are light and durable. We also sell plastic and titanium sporks
Water bottle (1-2)	X	\$14-16	Wide-mouth, hard sided Nalgene work well. We recommend that everyone have 2 liters of capacity.
Bandana (1-2)	X	\$2	Useful for a variety of purposes from wiping post-pee to sneezing, from a cooling neck tie to wiping your bowl.
Headlamp	X	\$30	Durable and lightweight. Bring spare batteries.



Batteries	X	\$1	AA/AAA are available for sale. We recommend 2 full sets for your headlamp.
Lighter	X	\$1.50	For lighting your camp stove
Watch	X	\$25	A watch with an alarm is a nice feature.
Pen/pencil	X	\$0.75	For journaling and taking notes during classes
Notepad	X	\$10	A small, lightweight pad is fine.
Sunglasses	X	\$30-80	Sunglasses with 100-percent UV protection; lenses should be dark. If you wear prescription lenses and have limited vision without them, bring your own prescription sunglasses, clip-ons, or over glasses. We sell Suncloud and Optic Nerve.
Prescription glasses/contacts (2-3)	X	X	Bring a spare pair of glasses or lenses. Contact-lens wearers should also bring a pair of glasses as backup.
Optional Items			
Book or e-reader	X	\$140	A lightweight paperback book or e-reader. Tablet-style e-readers (e.g. Kindle Fire) are not acceptable. We recommend bringing a padded case as well.
Trekking poles	\$5	X	Sturdy, telescoping poles that can be used for increased stability while walking and minimize impact on your legs. Rental price is for an individual pole.
Camera	X	X	The experience you're about to embark on is unique and powerful. — something you may want to capture memories of to take back with you. For this reason, we recommend bringing a lightweight, waterproof camera. Please consider this camera should have a battery/batteries that can withstand varied weather conditions.
Camp chair	X	\$35	Bonus for camp life, we sell Crazy Creek chairs.
Hydration system	X	X	An alternative hydration system to bottles, whether a Camelbak, Platypus, etc.
Sunglasses retainer	X	\$8	Chums or Croakies for keeping track of your glasses or sunglasses.
Pocket knife	X	\$25-35	One small knife is sufficient; simple folding knives are popular.



Shared Group Equipment—NOLS will supply

All items listed below are provided by NOLS and shared among all expedition members. Group equipment is included as part of the course tuition; however, students will be charged for any lost or damaged group equipment.

Tents
Compasses
Trowels
Stoves, fuel bottles and fuel
Maps
GPS
Repair kits
Reference books
Cooking gear/spice kits
Soap and hand sanitizer
Water purification

First Aid:

Our instructors carry adequate first aid kits. There is no need to bring your own.

Boot Selection Guide

Medium-weight, off-trail backpacking shoes or lightweight boots work best. They provide good support for off-trail hiking with heavy packs. Here are some features to look for:

- Durable outer material, such as leather or thick nylon, that will withstand hiking among sharp boulders and dense vegetation. Full mesh is not appropriate.
- A waterproof Gore-Tex liner can be beneficial, but is not required. Your feet will get wet if water comes in over the top of your boot. A Gore-Tex liner can also slow drying time once the boot is wet.
- A sole that provides a stable footbed and protection from sharp rocks and other surfaces, like Vibram®. Typical running shoes are not supportive enough for a NOLS expedition.
- Mid-top or high-top ankle coverage can be helpful in snowy or wet conditions (June 1 - July 1). High-top ankle coverage can also be helpful if you have a tendency to roll your ankles. Below-the-ankle hiking shoes work well in drier conditions (later summer courses and the canyon courses)
- Comfortable fit with your preferred hiking socks. Shoes that are too small commonly cause blisters.

The following list of acceptable boots is not exhaustive and is to be used for suggestions only. It is fine to substitute a similar boot for one of those listed here.

These are the two brands we sell in our outfitting store:



- La Sportiva: TX4, TXS GTX
- Salomon: X Ultra 3 Mid, X Ultra 4 Mid, Quest 4D GTX

These are other good options:

- Asolo: Finder, Fugitive
- Keen: Targhee II/III Mid
- Altra: Lone Peak Hiker
- HOKA ONE: Anacapa Mid, Kaha
- Limmer: Lightweight + Ultralight
- Lowa: Camino, Ranger, Trekker, Mauria, Explorer, Lady Light
- Oboz: Sawtooth
- Scarpa: Kailash, Mescalito, Trek
- Vasque: Talus

Note that manufacturers often rename their product lines. Visit the manufacturer's website or contact us if you have questions.

