

Basic Backpacking Lecture 2



Clothing Topics

- Review the basics
- Adjustments for weather
- Footwear
- Specialty items
- Multi-day trip planning
- Clothing checklists



Clothing Basics

- No cotton!
- Dress in layers
 - Base layer
 - Insulating layer(s)
 - Waterproof/breathable shell
- Shell also
 - Insulation
 - Bug protection



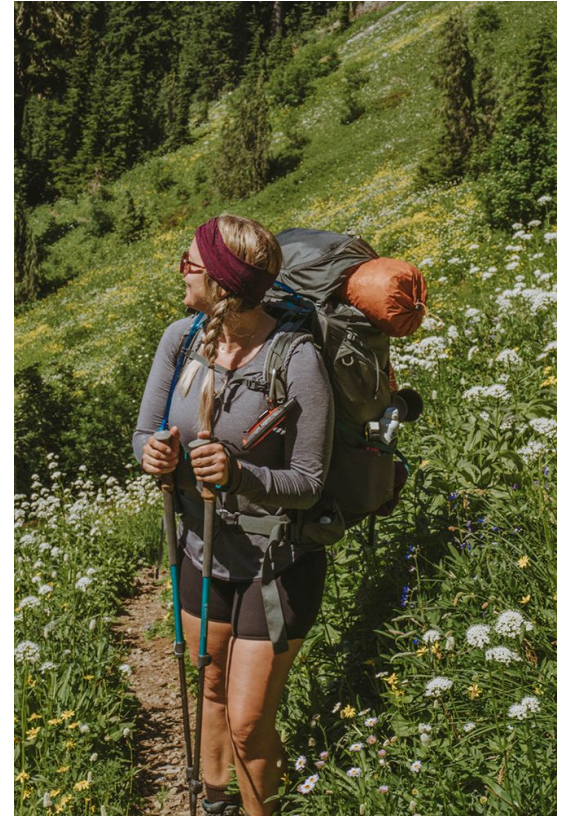
Clothing Basics

- Legs need layers too
- Hats are important



Clothing Basics

- Legs need layers too
- Hats are important
- Fewer layers on the trail
- More layers in camp
- Doesn't need to be expensive



Footwear

Backpacking considerations

- Weight of pack
- Miles traveled
- Terrain expected
- Days on trail



Footwear

Boots vs. Trail Shoes

- Personal preference
- Find what works for your feet
- Highly recommend they be waterproof



Specialty Items

Commonly used but not on every trip:

- Gaiters
- Head net
 - mosquitos/biting flies
 - avoids use of repellent on face
 - worn over hat
 - black netting
- Camp shoes
- Water shoes
- Warmer clothing



Clothing for Multi-Day Trips

How much to bring?



Clothing Planning

Always want at least two due to sweat, etc.

- Shirts
- Underwear
- Socks

Items for which you will *often* want a second as backup:

- Warm hat (varies)
- Gloves



Clothing Planning

Even on long trips, we *usually* just bring one of these:

- Waterproof/breathable layer
- Insulating layer(s)
- Long underwear
- Pants (varies)
- Sun hat



Clothing Planning

Even for long trips, we *usually* just bring a few of these and reuse them:

- Shirts
- Underwear
- Socks
- Bandanas



Clothing Checklist for Typical Trip

- Footwear for on trail
- Upper body shell
- Lower body shell
- Upper body insulation layer
- Lower body insulation layer
- Upper body base layer x2
- Puffy or similar
- Lower body base layer x2
- Hiking socks x2
- Hat with brim (sun protection)
- Warm hat
- Gloves x2
- Head net
- Sleeping clothes

From “Typical Backpacking Checklist” in Course Materials.



The Big Four



Gear: The Big Four

The “big four” usually comprise the most cost and weight.

1. Shelter
2. Sleeping bag
3. Sleeping pad
4. Backpack



Big Four: Shelter



Shelters



Purpose of Shelters

- Keep you (and your gear) warm and dry
- Keep insects out
- Privacy



Shelter Types

- Freestanding tent
 - Supported by poles
- Non freestanding tent
 - Supported by guylines and stakes
- Tarp
 - No sides or floor
- Bivy Sack
 - Small shell around you and your sleeping bag



Shelters

Freestanding Tent

- Supported by flexible poles
- Lots of internal space
- Easy setup
- Setup almost anywhere
- Heaviest design
- Most common choice



Shelters

Non-freestanding tent

- Supported by guy lines and stakes (and a pole or two)
- Lightweight
- Setup finicky
- Requires compatible tent site
- Less interior room



Shelters

Tarp

- Very lightweight and compact
- Protection only from above
- No sides or bottom
- No protection from bugs
- No privacy
- May require bivy sack
- Requires compatible tent site
- Single wall, can create condensation issues



Shelters

Bivy Sack

- Full protection when closed
- Partial protection when entering/leaving
- Partial privacy
- Light and compact
- Easy setup
- Setup anywhere



Shelters

Footprints (AKA Ground Cloth)

- Protects bottom of shelter
 - Dirt
 - Damage
 - Wear
 - Extends life of tent
- Adds weight and bulk



Shelters

Recommendation

- 3-season free standing tent
- 2 ½ lb or lighter
- Vestibule
- Double wall
- Footprint



Big Four: Sleeping Bag and Sleeping Pad



Sleeping Bags

- Temperature Rating
 - (EN or Manufacturer's Rating)
- Insulation
 - Synthetic - cheaper, heavier, bulkier, dries fast
 - Down - more expensive, lighter, smaller, stays wet
- Weight
 - Consider the shell fabric
- Shape
 - Mummy, rectangular, etc.

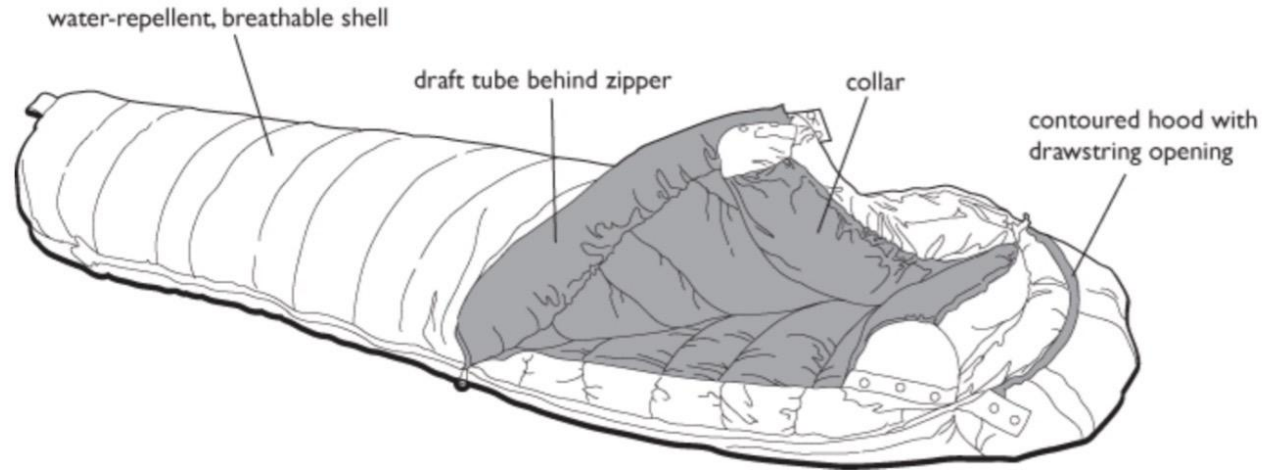


Types of Sleeping Bags

- Traditional, hoodless, zipperless, quilt, wearable, wearable quilt, ...



Features & Components



Do You Run Hot? Cold?

- Various rating systems
 - EN (European Norm)
 - ISO (International Standards Organization)
- Temperature ratings imply “standard” (average) person
- Women's Bags vs Men's Bags
- Start by considering a 20F bag as a baseline



Sleeping Bag Care

- Home
 - Never store in a stuff sack
 - Most come with a storage bag
- On the trail
 - Packed in a dry bag (or garbage bag)



<https://www.rei.com/learn/expert-advice/caring-sleeping-bag.html>

Sleeping Pads and Mats

- Sizes
 - Full Length or $\frac{3}{4}$ Length
 - Narrow or wide
 - Mummy or rectangle
- R-Value
 - Insulating Efficiency / Warmth
- Weight
- Integrated vs. non-integrated
- Comfort
- Noise
- Men's vs. women's
- Inflatable vs. foam



Recommendation

- Sleeping Pad

- Inflatable
- R-Value ≥ 3.5
- $\leq 12-20$ oz
- Quiet

- Sleeping Bag

- Down
- 20 degree
- $\leq \sim 2$ lb
- *mummy vs. semi-rectangular: personal choice*



Big Four: Backpacks



Backpacks

- Pack volume
- Fit
- Features
- Price
- Weight
- Men's vs. women's
- Warranty coverage?



Internal Frame Backpacks

- Stiff frame inside pack
 - distributes load to hips and shoulders
 - full-featured suspension system
- Wide range of sizes
- Range of load limits
- Ventilation between pack and back
- Additional storage in lid
- Current mainstream choice



Recommendation

For trips up to 3-4 days.

- 50 - 65 liter capacity
- 3-5 lbs weight
- Load rating: 35 lbs
- Hipbelt pockets
- Pack cover
- Best to buy in person
 - fit very important
 - tryout with weight in pack



Other Important Items



Stoves

- Canister
- Alcohol
- Liquid Gas



Canister Stoves

- Fuel
 - isobutane propane blend
 - recyclable
 - widely available
- Easy to use
- Some with integrated pots
 - fast boil times
- Ability to simmer varies
- Some very light



Alcohol Stoves

- Extremely light!
- Fuel
 - Nonvolatile
 - Widely available
- Requires separate pot+stand
 - Might need wind guard
- Cannot be turned off once lit
- Prohibited by some burn bans
- **Not recommended as first stove**



Gas Stoves

- Old technology
- Heavy, bulky, inconvenient
- Strengths
 - refillable
 - melting snow
 - international travel
- Not recommended for new purchases
 - limit to 1-3 night trips



Stove Considerations

- Weight, *including pot and fuel*
- Just boiling water or cooking?
- Boiling time
- Fuel consumption
- Piezo vs. Match/lighter
- Pot
 - Integrated vs. separate
 - Support must be compatible for stability



Cook Kit

- Mug
- Utensil(s)
 - Sporks are popular
 - Consider carrying an extra
- Pot (if not using an all-in-one system)
- Cozy (optional)
- Backup lighter for stove
- Cleaning supplies if cooking



Recommendation

Just boiling water?



Cooking too?



Water Filtration

- While the water flowing in the streams and rivers of the backcountry may look pure, it can still be contaminated with bacteria, viruses, parasites, and other contaminants.
- **We recommend filtering/treating all water.**



Squeeze Filter

Most Popular

<u>Pros</u>	<u>Cons</u>
Filters Protozoa	Does not kill Viruses
Filters Bacteria	Not so easy in shallow water
Light weight: 3-4 oz	No water taste improvement



Pump Filters

<u>Pros</u>	<u>Cons</u>
Filters Protozoa	Heavier and larger
Filters Bacteria	Most do not kill viruses
Works easily in shallow water	Some filters can be damaged if temps below freezing
Some use pre-filter or screen = improved water taste	



Ultraviolet Purifiers

<u>Pros</u>	<u>Cons</u>
Kills viruses	Doesn't work as well for cloudy water, and can require two treatments to meet U.S.E.P.A. standards.
Kills bacteria	Requires batteries (spares)
Kills protozoa	Should have a backup
Easy to use	Pre-filter recommended
Does not clog	Minimal/no taste improvement



Chemical Treatment

<u>Pros</u>	<u>Cons</u>
Kills Bacteria	Effectiveness impacted by water cloudiness, pH, and other factors.
Kills Viruses	
Kills Protozoa Giardia	
Chlorine Dioxide kills Protozoa Cryptosporidium	Iodine does NOT kill Protozoa Cryptosporidium
Easy to use, lightweight	30+ minutes to be effective
Inexpensive	



Gravity Systems

- Hang from a tree / sit on a slope
- Pros/Cons similar to a squeeze filter system
- Great for groups
- Lighter than pumps



Be Mindful of Freezing Temperatures

- Freezing temps can damage water purification gear
 - Filters will crack
 - Can kill batteries in UV purifiers
 - Liquid chemical treatments can freeze
- **Sleep with your gear/keep close to your body**



Electronics

Electronics are **optional** but can be useful:

- Navigation: GPS and Maps
 - (As a secondary source of navigation info only. Primary source is still map and compass.)
- Satellite Messengers - inReach and Spot
 - SOS
 - Weather forecasts
 - Communication back home - tracking and messaging.
- 2-Way Radios (compact) - 12-20 mile range
- Apps to ID peaks, animals, plants, night sky, etc.
- Entertainment during downtime (offline books, music)



Satellite Messengers

- Useful for
 - SOS
 - Weather reports
 - Messages back home
 - Location tracking back home
 - Minimal-feature GPS
- Downsides:
 - Expensive
 - Require service plan subscription for messaging and weather



Phone

- Useful *secondary* source of information
 - Can fail temporarily or permanently
- Difficult to use in adverse conditions
 - Raining, extreme temperatures
 - While wearing gloves or sunglasses
 - Cold temperature reduces battery life
- Cell signal usually not available
 - Backcountry, at trailheads, and remote roads.



Recommended Apps

Navigation

- Gaia GPS

Learning and Discovery

- PeakFinder - mountain identification
- Merlin - bird identification
- Washington Wildflower Search - plant identification (not just flowers)
- SkyMap - stars, planets, etc.

Communication

- Client app for your satellite messenger (if you have one)



Backcountry Phone Best Practices

- Download important data before trip
 - All backcountry maps and routes
 - Driving directions to and from trailhead
 - Regional data packs for identification apps
 - Books, music, etc.



Backcountry Phone Best Practices

- Download important data before trip
- Adjust settings to save battery life
- Use ear buds!
 - Be mindful of those around you
 - Consider wired ones



Portable USB Charger

Advantages

- Small
- Cheap
- Light

Disadvantages

- Not easy to recharge in backcountry



Minor Purchases

- **Stuff sacks**
 - clothes, food, electronics
 - can double as pillow
- **Compression sacks**
 - sleeping bag, clothes
 - consider compression dry bags
- **Sit pad**
 - foam roll, z-folding, or inflating
- **Washcloth, towel**
 - quick dry or traditional



Luxury Items for Comfort in Camp

Sometimes the weight is worth it!

- Camp shoes
- Chair
- Magazine/book
- Down booties
- Solar lantern
- Collapsible water bucket
- Deck of cards



Pack Weight



Different Measures of Pack Weight

- **Base Weight**
 - Pack weight w/o consumables (food, water, and fuel)
- **Pack Weight**
 - Total pack weight with consumables
- **Skin-Out Weight**
 - Everything you carry
 - Includes the clothes you wear



Approx. Pack Base Weight Ranges

- Extended Trip: 45 lbs+
- Traditional: 35 lbs+
- Lightweight: 20 lbs or less
- Ultra-lightweight: 10 lbs or less
- Sub-ultra: 6 lbs or less



Typical Weight Targets

- Base Weight
 - approximately 20 pounds
- Total Pack Weight
 - ideally <30% your body weight



Ways to Reduce Pack Weight

- Share group gear
- Weigh your items
- Bring multi-purpose items
- Reduce unnecessary food packaging



Gear Cost



Typical Costs for New Gear

Item	Low	Typical	High	Comment
Tent	\$250	\$300	\$680	Including footprint, stakes, etc.
Sleeping Bag	\$200	\$400	\$600	20F down
Sleeping Pad	\$80	\$100	\$225	R-Value ≥ 3.5
Stove	\$40	\$85	\$150	single-person cartridge stove
Cook kit	\$10	\$10	\$60	Minimum: spork. Max: spork + small titanium pot.
Backpack	\$150	\$275	\$425	50L - 60L, 2-3lb, 35lb load
Shoes/Boots	--	--	--	Assume day hiking footwear will suffice.
Water filter/pump	\$40	\$100	\$150	
Misc	\$75	\$125	\$175	compression sacks, toilet kit, hygiene, repair kit, etc.
Total	\$845	\$1395	\$2465	



Saving \$\$\$: Alternative Sources of Gear

- Quality gear at a discount
 - Old models, odd size, discontinued products
 - Source from online outlets
 - www.rei.com/s/outlet-save-on-great-brands
 - backcountry.com
 - moosejaw.com



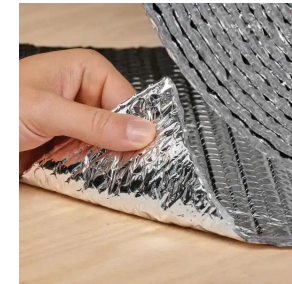
Saving \$\$\$: Alternative Sources of Gear

- Quality gear at a discount
- Buy core specialized gear first
 - items that keep you dry, warm and safe
 - sleeping bag, pad
 - shelter
 - rain shell
 - warm clothing



Saving \$\$\$: Alternative Sources of Gear

- Quality gear at a discount
- Buy core specialized gear first
- Think outside the box for small items
 - water storage
 - smartwater type bottles
 - cheap, strong, dependable, UL
 - pack liner
 - trash compactor bag or garbage bag
 - sit pad or cozy
 - use materials from around the house



Saving \$\$\$: Alternative Sources of Gear

- Quality gear at a discount
- Buy core specialized gear first
- Think outside the box for small items
- **Decide later what is worth the “upgrade”**



Alternatives To Buying Gear

- Buy used gear
 - Many physical retailers in Seattle area
 - Wonderland Gear Exchange (Fremont)
 - Ascent Outdoors (Interbay)
 - Second Gear Sports (West Seattle)
 - Thrift stores like Goodwill
 - primarily for clothing
 - look for quality brands
 - check labels for material info



Alternatives To Buying Gear

- Buy used gear
- Rent gear before buying!
- Where to rent
 - Ascent Outdoors (Interbay)
 - REI Seattle (and some other locations too)
 - Mountaineers Gear Library
 - UW Gear Garage (students, alumni, staff)



Mountaineers Gear Library

Re-opening Fall 2024

Gear

- Backpacks (youth and adult)
- Backcountry Stoves
- Backcountry Kitchen Kits
- Sleeping Bags
- Sleeping Pads
- Hiking Poles
- Headlamps
- First Aid Kits
- Water Bottles

Clothing

- Base Layers
- Fleece
- Rain Jackets
- Rain Pants
- Down Jackets
- Hiking Boots
- Hats
- Gloves
- Gaiters

Youth & Adult XS-XXXL sizes



Mountaineers Gear Library

Re-opening Fall 2024

- Seasonal fee
- One-time orientation session
- Reserve 1 - 2 weeks in advance
- Pick up at Program Center
- Return to Program Center
- Return in ready-to-rent condition
- For more info go to mountaineers.org and search for "gear library".



Gearpalooza Preview



Gearpalooza Preview

What and Why?

- Instructors bring in their gear
- Gear grouped into stations by type
- Students rotate through stations in small groups
- Instructors show and tell tips and tricks
- Demonstrate how to use some of the core gear
- Help you to research in a hands-on manner and make informed purchase decisions



Gearpalooza Preview

Stations

1. Water Filtration and Storage*
2. Cooking and Food*
3. Shelter and Sleep Systems
4. Backpacks
5. Essentials and Misc

*Outdoor station or activity



Gearpalooza Preview

Basic Logistics

- 9:00am - 1:15pm this Saturday, April 20
- Arrive early!
- Dress for outside
- Bring snacks and water
- Class split into small groups for the entire event
- More details in email



Field Trips



Field Trips

Objectives

- Put “backpacking theory” into practice
- Learn from mistakes in a supportive environment
 - This is a chance to go on a Mountaineers trip without the pressure of being the only new person
- Explore backpacking preferences
 - Local regions
 - Gear
- Have fun and enjoy the outdoors!



Field Trips

How Trips Were Chosen

- Criteria:
 - Easy to moderately strenuous
 - No technical obstacles
 - Reasonable drive time
- Scheduling options based on student survey:
 - Mix of weekend and weekend-adjacent trips
- Schedule goal: All field trips completed by mid-June



Field Trips

Characteristics

- Mid-May through mid-June is still early season!
 - High routes still under snow
 - Most iconic destinations are high routes
- Field trips are to early-season destinations:
 - Most are low elevation lakes and rivers



Field Trips

How To Pick a Field Trip

- If you indicated you are available midweek, please pick one of the Friday trips if possible.
 - Leave weekend spots available for people who can only do weekends.
 - We need to fill all trips to get everyone through the course!
- Favor earlier trips over later ones.
 - Not every trip is successful. Leave time for Plan B.
- OK to get on waitlist for max of 1 trip that is *earlier* than the one for which you are registered.



Field Trips

Preparations and Expectations

- Be realistic about your conditioning and sign up for a trip that is within your ability.
- Research driving route to trailhead so that you can be there on time.
 - Allow time for bathroom stops
 - Allow for commute traffic on midweek trips



Field Trips

Gear Practice

- Fully pack your pack as if for a trip
- Set up and tear down tent including footprints, tiedowns, etc.
- Set up sleep system inside tent
- Filter enough water for evening/morning in camp
- Light stove, cook and eat something
- Clean up as necessary and re-pack as if for hike out
- Practice hiking with your pack and taking it on and off

This can be done on your own or at the Gear Practice Trip!



End of Lecture 2

What's Next?

- Field trips open for registration tomorrow morning (4/18), 9am.
- Gearpalooza on Saturday, April 20, 9:00am - 1:30pm.
- Final lecture next Wednesday, April 24 6:30pm - 8:30pm.

