Cross Country Skiing

Kristoffer Sælid, OSI langrenn 2024



Cross Country Skiing WC Ruka 2019 Men Sprint Final

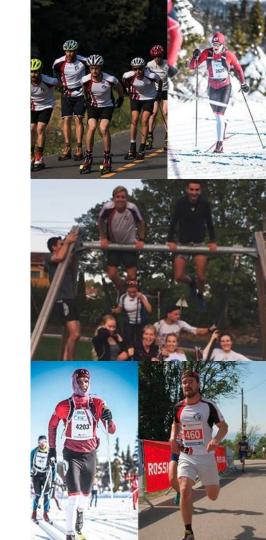


OSI Langrenn

- The #1 cross-country skiing club for students in Oslo
- About 100 registered members, 50 active members
- For everyone, from beginners to former elite skiers

About me

Kristoffer Frydenlund Sælid Architecture student at AHO, Oslo School of Architecture and Design Member of OSI since 2017 Cross-country skiing since age 2



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THE COURSE

Course plan

Theoretical day

• Theoretical session: Introduction to Cross country skiing

Practice:

- Day 1: 19:00- ca 21:00 at Sognsvann
 - o Basic technique, conquer the terrain
 - Split into smaller groups with instructors
- Day 2: 19:00 from Sognsvann
 - Keep Practicing basic technique
 - Social trip, bonfire and fun

Glimpse from previous courses



Course plan

Theoretical course:

- Introduction
- Equipment
 - Skis, poles and boots
 - Clothing
 - Other useful stuff
 - Wax and waxing
- Technique
 - Classical diagonal strides, double poling, double poling w/ kick
 - Uphill/downhill
- Schedule and practical information

INTRODUCTION

History

- The word ski comes from old norse skið, which means "stick of wood"
- Ancient means of transportation
 - o Russia (c. 6300–5000 BC), Sweden (c. 5200 BCE) and Norway (c. 3200 BCE)
- Cross-country sport events from late 1800s
- Included in the first Winter Olympics in Chamonix, 1924







Østerdalen, 1204

Chamonix, 1924

Seefeld, 2018









Foto: ukjent person

Oslo Museum





Birkebeinerne

During the civil war (1130-1319 AD), Birkebeinerne and Baglerne were the main political opponents. With the death of the Birkebeiner king Sverre in 1202, the ultimate goal of Baglerne was to seize power by killing his two-year old son, king Haakon. In order to save him, Torstein Skjevla og Skjervald Skrukka brought him by skis from Østfold to Lillehammer, 350 km through the wilderness of Dovrefjell to Trondheim.

Birkebeinerne



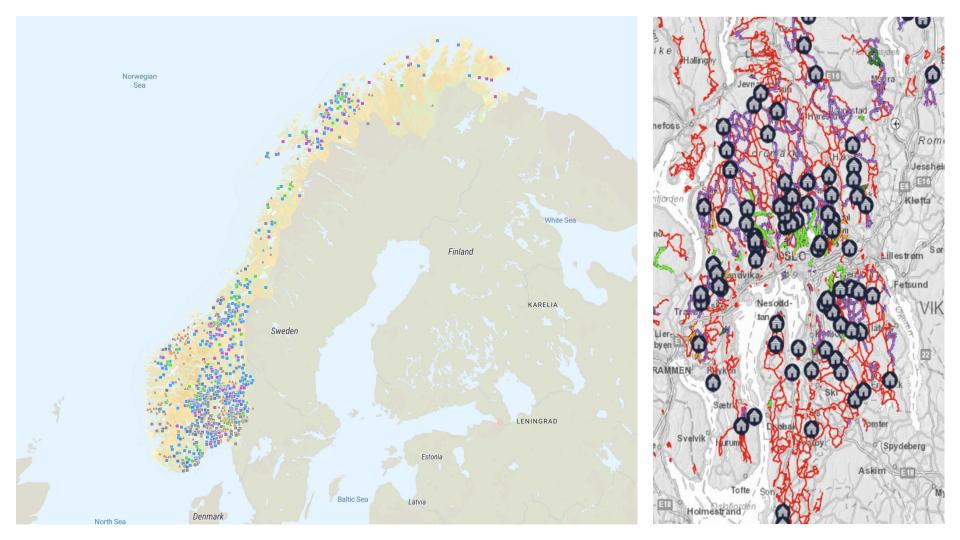


Where to ski?









Where to ski?

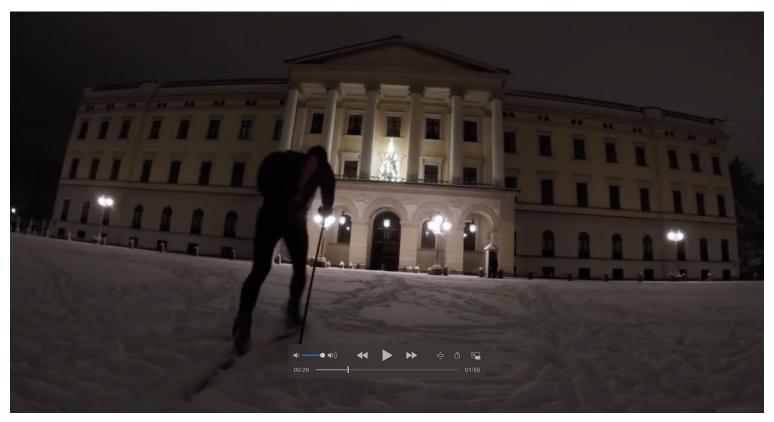
Useful resources an apps

skiforeningen.no	Forecast and track conditions, waxing tips etc. (norwegian only)	
skisporet.no	National track overview with GPS tracking of ski-track trucks	
<u>yr.no</u>	Weather forecast	



iMarka	Track overview for the Oslo area	
Skisporet	National track overview with GPS tracking of ski-track trucks	
Swix	Waxing tips etc.	

Where to ski?



EQUIPMENT

Different skis for different activities/terrain

Backcountry/touring, racing, roller skis

... for different techniques

Classical, skating

... and for different conditions

Cold, warm, zero

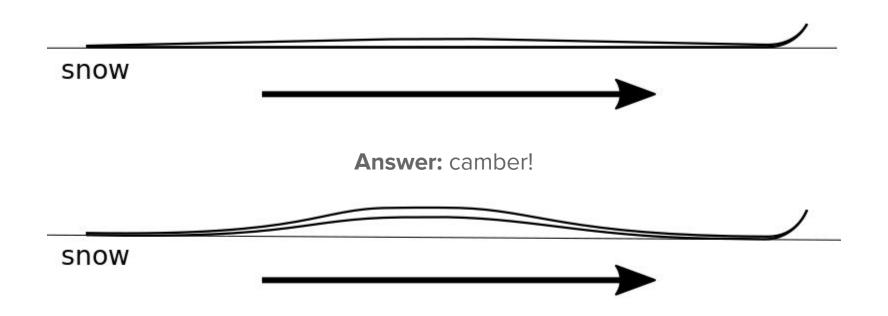




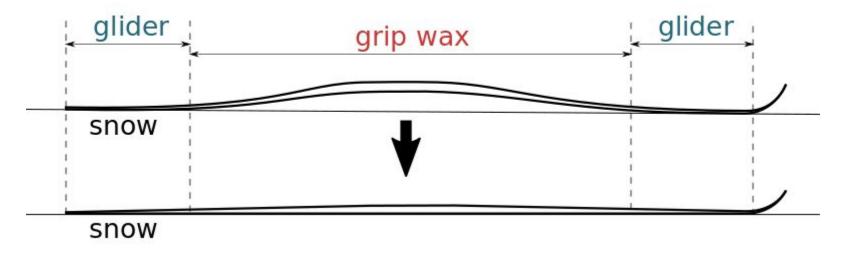
Physics quiz: how to minimize forward friction while maximizing backward friction?



Physics quiz: how to minimize forward friction while maximizing backward friction?



Applying pressure brings the grip wax zone in contact with the snow



Glider zones: low friction - Grip wax zone: high friction

Different skis for different activities/terrain

Backcountry/touring, racing, roller skis

... for different techniques

Classical, skating

... and for different conditions

Cold, warm, zero

Important with individual adjustment

- Height, weight, technique
- Beginners: use shorter, softer skis



Poles

Different poles for different activities/terrain

Backcountry/touring, racing

... and for different techniques

Classical, skating

Important with individual adjustment

Height, technique





Your height, cm	Poles classic	Poles, skating
152,50	122,50	132,50
155,00	125,00	135,00
157,50	127,50	137,50
160,00	130,00	140,00
162,50	132,50	142,50
165,00	135,00	145,00
167,50	137,50	147,50
170,00	140,00	150,00
172,50	142,50	152,50
175,00	145,00	155,00
177,50	147,50	157,50
180,00	150,00	160,00
182,50	152,50	162,50
185,00	155,00	165,00
187,50	157,50	167,50
190,00	160,00	170,00
192,50	162,50	172,50
195,00	165,00	175,00
197,50	167,50	177,50
200,00	170,00	180,00

Boots

Different boots for different activities/terrain

Backcountry/touring, racing

... and for different techniques

Classical, skating

Guess what? Important with individual adjustment!

Beginners: choose a comfortable, warm boot









Check the weather forecast, and dress accordingly!

- Temperatures may drop below -20°C/-4°F
- Avoid cotton (absorbs and accumulates moisture)
- Always bring extra clothes

Dress in layers

- 1. Base layer: wool, thinsulate, thermax, polyester
- 2. Insulating layer: wool, fleece, windstopper
- 3. Shell layer: protect from wind and water



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INO JEANS!



Other essentials

- Wool socks
 - Excellent to compensate for too large boots
- Warm gloves or mittens
- Hat wool or polyester
- Scarf or buff



PRO TIP: Bring an extra pair!



Other (more or less) useful stuff



Drinking belt



Headlamp

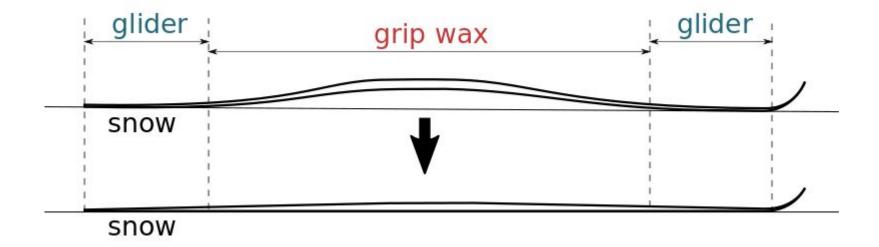


Camelbak



Backpack

In classical skiing, we apply grip wax to the middle zone to increase friction



Grip wax

- For fine-grained snow, and temperatures up to +3°C
- Different waxes for different conditions
- Apply multiple thin layers, each spread out using a cork



















Klister

- For deformed, snow (crusty/granular) and icy tracks
- Different klisters for different conditions, often covered with a grip wax
- Apply a single layer, spread out using e.g. your palm



Basic waxing principles

Grip wax

- Start with a hard wax for colder conditions (or a base wax)
- Apply in multiple, thin layers, even out with cork in between
- Adjust with a warmer wax if necessary

Klister

- Start with a harder klister for colder conditions (or a base klister)
- Apply one thin layer, even out with your palm or a klister scraper
- Adjust with a warmer klister if necessary



How to measure the grip wax zone

- 1. Clean the skis for wax
- 2. Put the skis side by side on an even floor
- 3. Stand on both skis with equal weight
- 4. With the help of a friend:
 - Put a paper under the skis, and push forward until it stops. Use a marker to indicate the point
 - Push the paper backwards and do the same thing
- 5. The two marks delineate your wax zone
- 6. Next-level stuff
 - Fold the paper and go to step 4
 - Repeat a couple of times
 - This gives you an indication of how you should apply the wax

















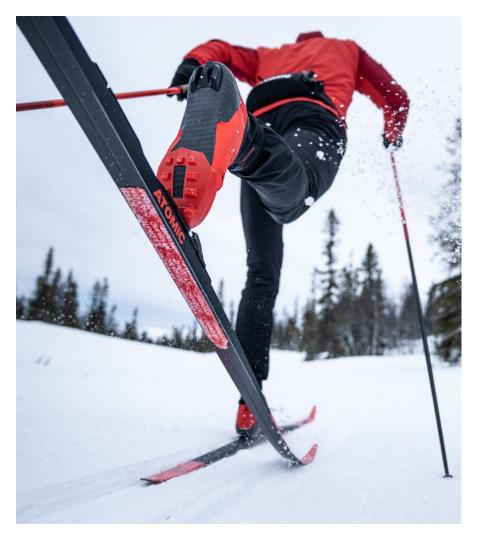














TECHNIQUE

Basic principles

Skiing is all about managing friction and gravity

Essential skills are balance, strength and stamina

Unlike many other endurance sports, good technique is crucial

Classic style



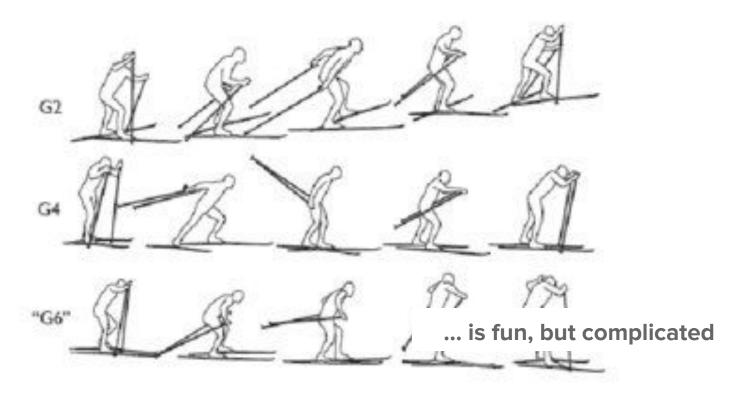


Skating





Skating



Classical technique



Diagonal strides

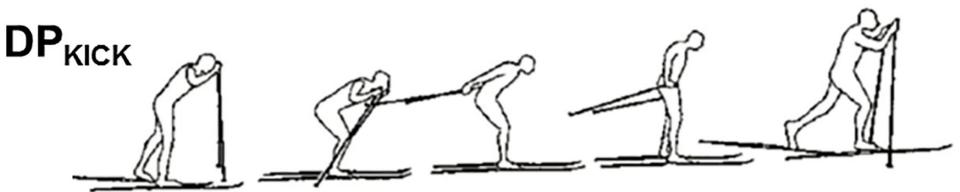


Double poling





Double poling with kick





Herringbones





Snow plow



SCHEDULE

Day 1

19:00H	Meet at Sognsvann T (Metro station)
19:00-19:30	Warm up – test your skies and wax (yes, we will help you)
19:30-20:15	Practice diagonal strides and double poling
20:15-21:00	Plowing and herringbones
21:00H	Done for the day

Day 2

19:00 H	Meet at Sognsvann T (Metro station)
19:00-19:15	Warm up – test your skies and wax (yes, we will help you)
19:15-20:00	Repeat what we learned yesterday
20:00-21:00	Depending on circumstances and level: Games, fun, a little round trip, etc.

Practical information

- Remember to rent skis, boots and poles. You can rent this at
 - Athletica Domus
 - Oslo vinterpark
 - O ...
- Be sure that you have the right wax under your skis
 - Check the latest temperature reading on the day of the practices
 - It's better to put on too hard/cold wax than too soft/hot wax
 - o If you plan to do a lot of skiing this winter, we encourage you to buy a basic wax package
 - We will provide some grip wax
- Remember warm clothing suitable for physical activity (see slides for guidelines)
- Don't hesitate to <u>contact us!</u>



A few final tips

- Keep to the right side of the tracks
- When someone screams "LØYPE!!!" get out of the way ASAP!
- While skiing, Norwegians actually greet strangers.
 - Not greeting if meeting fellow skiers, especially in deserted places is considered rude
- Do not hesitate to ask strangers for waxing tips
- If you skate, avoid the classic tracks
- Avoid walking on foot in the ski tracks
- Avoid stopping in the middle of the tracks. Move to the side
- Avoid stopping at the bottom of steep hills
- Kids (and to some extent foreigners) get away with all the above..



Den Norske Turistforening

Røde Kors

- 1. Plan your trip and report where you are going
- 2. Adjust your trip to your abilities and the conditions
- 3. Show respect for the weather- and avalanche forecast
- 4. Be prepared for bad weather and storm, even on shorter trips
- 5. Bring necessary equipment for helping yourself and others
- 6. Choose safe routes, identify avalanche risks and insecure ice
- 7. Use map and compass. Always know where you are
- 8. Turn around before it is too late there is no shame in turning around.
- 9. Save your energy and find cover if necessary.













