

Grande Prairie Regional College
Department of Physical Education and Athletics
PA 1810 Cross Country Skiing

Winter 1996

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1.0 Course Description

Acquisition of theoretical knowledge and personal skill in diagonal striding, double poling, skating, christy and elementary downhill techniques, waxing techniques and related winter environment concerns.

2.0 Transfer of Credit

University of Alberta PAC 181 (1.5)
University of Calgary OPAT 259/Junior OPAT (1.5)
University of Lethbridge PHAC 2xxx (1.5)

3.0 Learning Objectives

- 3.1 To demonstrate basic and intermediate cross country skiing skills.
- 3.2 To discuss the basic principles and basic concepts involved in the theory of cross country skiing.
- 3.3 To demonstrate a positive attitude toward the life time activity of cross country skiing.
- 3.4 To discuss the principles of safe cross country skiing.
- 3.5 To state information useful in the care and selection of cross country skiing equipment.

4.0 Course Format:

The course will meet twice weekly, Tuesdays and Thursdays from 3:00 pm. until 4:20 pm. The course will also include participation in a one day tour and participation in the Wapiti Nordic Ski Club Loppet. Dates to be announced.

In addition to classes on Tuesdays and Thursdays students are to practice 1-2 hours per week. All practice sessions are to be recorded in the Practice Log.

When the weather and snow conditions permit the class will be held outside. If the outside temperature is too cold or the snow unskiable lectures will be conducted in doors.

(portable D) The skiing instruction will also be based on snow type. In cold dry conditions classical skiing will be the focus and in warm conditions skating or hill technique will be the focus.

5.0 Instruction will include the following:

Psychomotor Content

Classical skiing

diagonal stride
double poling
one step double pole
changeovers
diagonal stride uphill
up hill traverse
sidestepping uphill
herringbone

Skating skiing

free skate
one skate
two skate
off set skate

Hill technique

step turning while running
snow plow stop
snow plow turns
basic christie
intermediate christie
basic telemark turn
intermediate telemark turn

Cognitive Content

History of nordic skiing
Hypothermia and frostbite
Conditioning and training techniques for cross country ski racing
Dressing for cross country skiing
Waxing theory and practice

Purchase and maintenance of ski equipment
Day trip planning, equipment repair kits
Trail etiquette

6.0 Evaluation

6.1 Practical skill evaluation 60%

* 6 skills will be evaluated at 10% each; Skills to be tested include:

diagonal stride
double poling
off set skating
one skate
step turns while running
snowplow turns

* practical skills will be evaluated according to the evaluation criteria adapted from the UofA criteria and handed out in class.

6.2 Practice log 20%

Guidelines for the Practice log: A practice log for

1. Include: date, approximate distance, type of skiing, snow conditions, waxes used, technique worked on.

6.3 Final exam 20%

7.0 Required Text

Gillette, Ned and J. Dostal Cross. Cross Country Skiing. Seattle: The Mountaineers, 3rd edition, 1988

8.0 Attendance

Unexcused absence from more than 10% of this class (3 classes or tour day or loppet day) is considered to be insufficient attendance and may result in debarement from writing the final exam.



9.0 Marking Criteria for Skill Evaluation

Diagonal Stride

Grade	Evaluation Criteria
3 or less	<ul style="list-style-type: none">- inadequate forward body lean (e.g. less than 30%)- no weight shift; not lifting back foot off snow; shuffling- arms and legs not moving in opposition (bear like)
4	<ul style="list-style-type: none">- incomplete forward body lean, 30-40 degrees- poor weight shift - back foot dropping onto snow behind gliding foot on recovery- arm and legs moving in correct opposition 50% of the time - inconsistent- swinging poles on recovery to angle greater than 90 degrees - allowable only if it does not create 'bear' problems
5	<ul style="list-style-type: none">- body lean approaching 45-50 degrees- recovery foot landing at least parallel to the glide foot. 50% of the time- poling in opposition, but not smooth and consistent- high arm recovery or low swinging one- some shoulder rotation (twisting) present- incomplete extension of kick leg and/or poling arm (e.g. poling ends at hip)
6	<ul style="list-style-type: none">- correct body lean - about 45 degrees- recovery foot landing at parallel with glide foot consistently- leg and arm extension present 50% of strides- shoulders remain square, arms do poling- arm recovery follows correct path- appears reasonably comfortable and relaxed; generally smooth overall
7	<ul style="list-style-type: none">- correct body position- recovery foot landing in front (at least 4-6 inches) of glide foot on 50% of strides- leg and arm extension present consistently- correct timing and consistent timing
8	<ul style="list-style-type: none">- correct body position- recovery foot consistently landing in front of glide foot- complete extension with kick leg and poling arm- correct and smooth rhythm and timing- some evidence of leg pre-load 50% of strides (riding up onto nearly straight leg before flexing to kick)- consistent leg pre-load (flexion then extension)
9	<ul style="list-style-type: none">- all of 8 plus pole assisted glide
10	<ul style="list-style-type: none">- consistent, smooth, technically correct performance- powerful, effortless appearance

Double Poling

3 or less

- no or little forward lean on double poling (e.g. body angle staying less than 45 degrees)
- not standing up for rest phase between poling actions
- arms buckling on double poling (less than 90 degrees)
- no momentum generated due to poor technique and/or inadequate strength to perform the maneuver

4

- forward lean better, 45 - 75 degrees (about 90 degrees in optimal)
- 3 distinct phases visible: reach, double pole, stand
- some knee flexion on glide, but not sitting
- arm recovery high, (above shoulders on reach) resulting in body arch

5

- lean approaching 90 degrees
- 3 phases visible
- good extension on poling
- poles angled back on all recoveries and pole plants

6

- all of 5, plus proper timing of arm and recovery (initial swing with lift - push from hips to full flexion position)
- glide on heels, ankle angle at 90 degrees on glide

7

- arm action continuous, no pauses at hips or behind skier
- complete extension on poling, hands open

8

- body lean forward of vertical on pole plant
- strong, consistent movement pattern; powerful poling
- feet driven forward on double poling so ankle angle greater than 90

9

- all of 8, plus consistent pre-loading of arms
- skier may use back leg as counterbalance in reach phase

10

- consistent, smooth, technically correct performance
- powerful, effortless appearance



Off set skate
3 or less

- obvious lack of balance and comfort while skating
 - consistently glides on ski edges versus flat ski prior to push off
 - little or no upper body movement
 - weak or absent weight shift (e.g. ankles never less than 20cm. apart on gentle hill)
 - timing other than 3 points touch on one side
- 4
- glide on flat ski at least 50% of skates
 - some upper body movement toward glide ski
 - reasonable weight shift present on at least 50% of skates (e.g. ankles within 10cm. of each other on gentle hill)
 - pole timing correct 50% of skates
- 5
- glide on flat ski 75% of skates on flat terrain
 - upper body moving over push-off ski and across in new direction
 - good weight shift on at least 75% of skates (e.g. knee, hips and nose over glide ski)
 - correct pole timing
- 6
- reasonably consistent glide on flat ski
 - upper body rotation present to both sides
 - good weight shift on every push-off; maintenance of momentum
 - both arms reaching as far up the hill as practicable
- 7
- quick, effective push-off with legs (e.g. prelaod by flexing leg prior to extension)
 - equal push-off with both legs; action not rushed
 - arm action continuous
 - good poling extension behind
- 8
- riding up on almost straight glide leg on gentle hill
 - recovery foot lands uphill of glide ski
 - long glide on each ski with solid weight shift
 - evidence of power from both arms and legs
 - strong consistent movement pattern on one side
- 9
- consistent, strong, smooth skating and poling
 - ability to offset on either side
- 10
- consistent, smooth, technically correct performance
 - powerful effortless appearance
 - lead change demonstrated

One Skate
3 or less

- obvious lack of balance and comfort while skating
 - consistently glides on ski edges versus flat ski
 - little or no upper body movement
 - weak or absent weight shift (e.g. ankles never less than 30cm. apart)
 - absence of proper poling rhythm (e.g. poling on every second glide versus every skate or missed poling)
- 4
- glide on flat ski at least 50% of skates
 - some upper body movement toward glide ski: but not enough
 - reasonable weight shift present on at least 50% of skates (e.g. ankles within 10cm. of each other)
 - arm action timed properly 50% of attempts
- 5
- glide on flat ski 75% of skates
 - upper body faces over push-off ski until hands pass hips
 - good weight shift on at least 57% of skates (e.g. knee, hips and nose over glide ski)
 - poling effective (e.g. push past hips)
- 6
- consistent glide on flat ski
 - upper body leading poles
 - good weight shift on every push-off
 - arm recovery timed properly (e.g. arm push begins midway through glide on one ski)
- 7
- quick, effective push-off with legs (e.g. preload by flexing leg prior to extension)
 - equal push-off with both legs; action not rushed
 - recovery foot brought equal to glide foot
- 8
- strong, effective poling (e.g. full arm extension behind)
 - long glide on each ski with solid weight shift
 - recovery foot brought in front of glide foot
- 9
- riding up on an almost straight glide leg
 - strong, smooth skating and poling, consistent
- 10
- consistent, smooth, technically correct performance
 - powerful, effortless appearance

Step Turn While Running

3 or less

- poor or absent weight shift from ski to ski
- serious skidding out of ski tails (failure to edge skis)
- straight, stiff body position
- initiating with pivot or outside ski vs. inside ski

4

- committing weight to outside ski before stepping on inside ski (50% or more steps)
- skidding on less than 50% of steps
- hands held at least at hips not behind

5

- good weight shift on 75% of steps (both directions)
- skidding on less than 25% of steps
- body position may be further forward than necessary, but not sitting/squatting on turn
- hands leading body into turn

6

- consistent weight shift from ski to ski
- small steps (45-60 cm. per step)
- minimal skidding (good ankle and knee angulation into turn)
- hands and eyes focused forward in new direction

7

- solid, consistent weight shift
- no or very minor skidding
- relaxed, comfortable body position
- even cadence on steps; e.g. not hopping
- some side preference may be visible

8

- increase of cadence (with maintenance of even rhythm in stepping) on steeper terrain
- full 180 degree turn executed in both directions; minimal side preference

9

- smooth, controlled turns (180 degrees) in both directions; no side preference
- some adaptation to terrain variations (e.g. ice, bumps, etc.)

10

- consistent, smooth, technically correct performance over successive runs

Snowplow Turns

3 or less

- major body position errors (e.g. excessive forward body lean (greater than 30 degrees) or sitting back)
- skis not wedged or wedge angle varying greatly
- leading turns with upper body twist versus turning with the feet
- falling down

4

- skis within control
- body position basically correct
- wedge angle reasonably controlled; tips less than 20cm. apart consistently
- skis may be slightly staggered
- downhill ski may track
- turns initiated with feet, not upper body

5

- correct start on hill; beginning from stand in correct body position; relaxed, slight forward lean (10-15 degrees), knees slightly flexed
- ski wedge maintained at 10-15cm. apart and skis not staggered fore and aft excessively
- minimal tracking; less than 25 degrees of turns
- skis equally weighted

6

- correct body position; hands held in front of hips 50% of turns (tray carry position)
- both skis gliding flat on snow; not staggered
- middle to wide radius turns to both sides

7

- upper body maintaining angle to hill throughout turns to both sides, 75% of the time
- correct hand position consistently held
- ski tail width appropriate for hill grade
- poles angled back with baskets inside skis

8

- consistency in maintaining body angle to hill
- adaptation to terrain variations (e.g. ice, bumps) with reasonable comfort control
- smooth, rhythmic turns; equal radius and time per turn
- some use of pressure control (rising and sinking) to facilitate turning

9

- relaxed, consistent turns; absorbing most terrain variations without slipping out on icy patches
- consistent inclusion of pressure control to facilitate turning

10

- consistent, smooth, technically correct performance over successive runs
- consistent appropriate adaptation to terrain variations

PA 1810 Class Schedule 96

How this class operates: Meet each day in portable D. We will decide on the skiing type based on the snow conditions. If temperatures are -20C or colder we will meet and do class work only. (lecture, wax lab., etc). Occasionally we will stay out on the trails past 4:20 to make up lost skiing time due to poor weather and snow. In all likelihood we will end this course in March. Also in March we will have optional meetings each Sunday to ski together and practice our skills.(1:00pm - 3:00 pm) For those students who wish, extra feedback on cross country technique will be given by D.Kay during these Sunday practice sessions. Test days will occur in late February and March. Testing days will vary depending on the snow conditions.

Jan. 4 Introduction, course outline, portable D

9

11

16

18

23

25

30

Feb. 1

6

8

13

15

20 Tentative classic skiing testing.

22 Tentative classic skiing testing.

March 5

7

12

14

19 Tentative hill technique testing.

26 Tentative Skating technique testing.

28

April 2

4

9

11