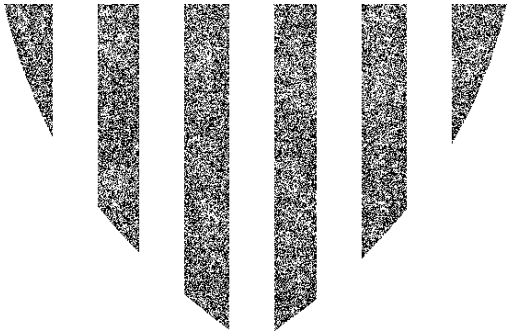
Intermountain Division

Nordic Certification



PROFESSIONAL SKI INSTRUCTION IN THE INTERMOUNTAIN WEST

Overview

Nordic

This manual is intended to provide information about the Nordic Certification program for the Professional Snowsport Instructors of America - Intermountain (PSIA-I AASI-I) Division. The manual contains information on the policies and standards of the assessment process. The manual also contains a description of the Nordic Certification structure and information on the content of the various assessments.

The purpose of the PSIA-I/AASI-I Nordic Certification program is to evaluate ski teachers and assure the public that certified instructors have met a minimum level of skiing and teaching proficiency. This includes the ability to communicate in a professional and safety conscious manner.

MEMBERSHIP and POLICIES

All candidates for PSIA-I/AASI-I Nordic certification examinations must be current members in good standing of the Division before being allowed to take an assessment. Level II candidates must be Level I members of PSIA-I/AASI-I and Level III candidates must be Level I or II Nordic certified members of the Division or Level II or III Alpine certified members of the division. Membership forms are available from the PSIA-I/AASI-I Office, the area certification representative or the ski school director.

To become a Entry level member of PSIA-I/AASI-I you must:

1. Be affiliated with a PSIA-I/AASI-I ski school.
2. Complete the PSIA-I/AASI-I registration form.
3. Attend a PSIA-I/AASI-I Entry Level / Level I clinic / assessment.

NOTE: Registration is completed only after you have attended a PSIA-I/AASI-I registered clinic. (If all requirements are fulfilled by January 31, the registered member has Division voting rights.)

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QUALIFICATIONS

A candidate must meet the following qualifications in order to take a Nordic Certification Assessment in PSIA-I/AASI-I.

1. The candidate must be at least eighteen (18) years of age on the date of the assessment.

2. The candidate must be current in education credits and dues paid to PSIA-I/AASI-I.

3. The candidate must submit an application signed by his or her ski school director or designate.

4. The candidate must have sufficient knowledge of the English language to effectively communicate and conduct a lesson in English.

5. The candidate for the Level II Certification Assessment must have completed apprenticeship teaching and/or taught a minimum of 100 hours or one year at a PSIA/AASI recognized snowsport school.

6. The Assessment candidate must have taken a PSIA-I/AASI-I sanctioned clinic prior to the exam date (candidate selects).

   All candidates shall be subject to approval by the PSIA-I/AASI-I Board of Directors.

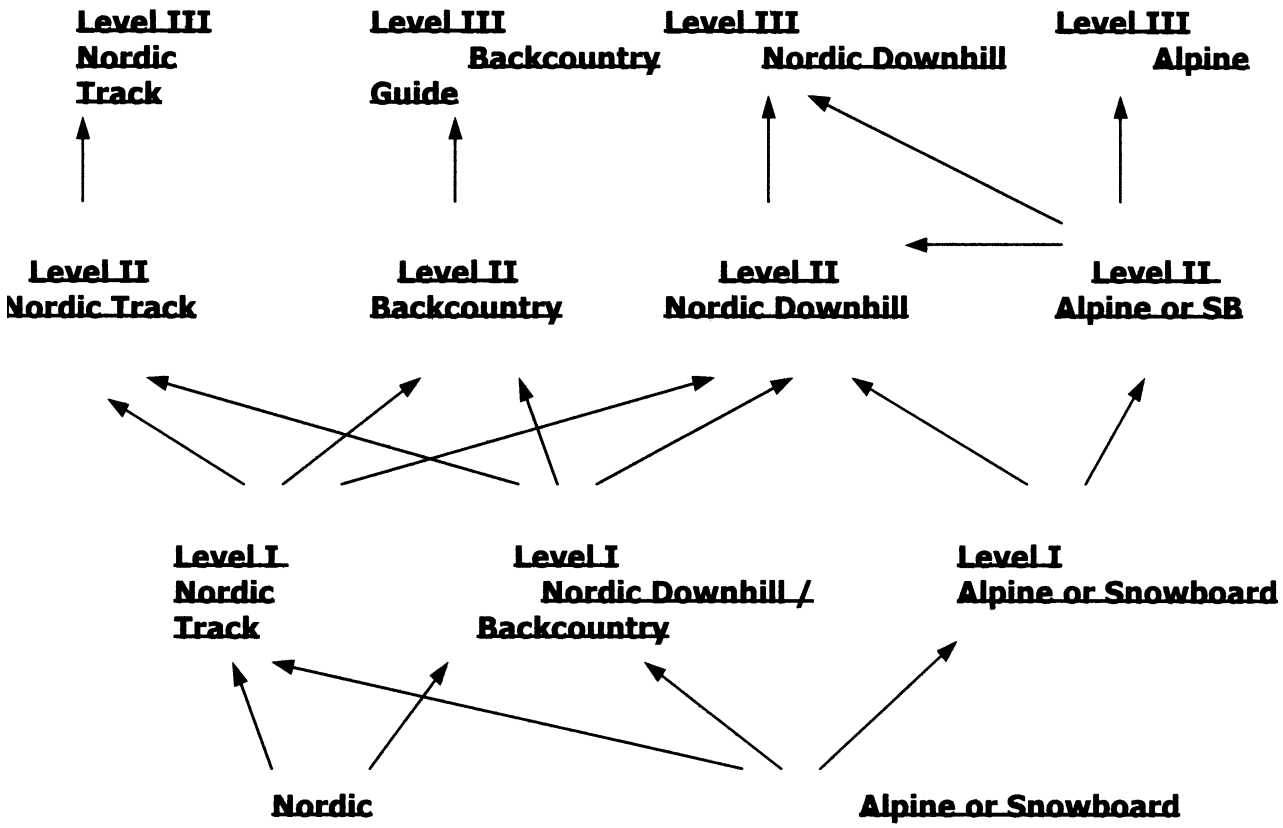
NORDIC CERTIFICATION STRUCTURE

Three distinct disciplines: **Track** (which includes Classical / Skating & some downhill techniques), **Nordic Downhill** (Telemark Skiing**)**, and **Backcountry** are recognized and will be assessed for by PSIA-I Nordic. A thorough discussion of the certification requirements for each discipline follows.

in Nordic Downhill without participating in other Nordic disciplines.

in Nordic Downhill without participating in other Nordic disciplines. PSIA considers the Nordic Level I Instructor to be able to teach beginning levels in one of two areas of concentration: Track or Nordic Downhill / Backcountry. Level I certified instructors in either discipline may specialize at Level II in Track, Nordic Downhill, or Backcountry. A PSIA-I Level II instructor has demonstrated competence in teaching up to the intermediate level in a given discipline. Level III is considered to be an expert instructor, able to teach all levels and handle all types of instructional situations.

As you can see from the diagram below, the Level I Nordic certification is a prerequisite for any of the Level II or III assessments. Level II or III Alpine certified instructors may also focus on Nordic Downhill without going through the Nordic Level I clinic / assessment. These Nordic



All candidates will be required to meet certain minimum standards in the areas of skiing, teaching and technical / mechanical knowledge in order to pass the exams. Please note that the minimum standards needed to pass the Level III Assessment are significantly higher than those for passing the Level II Assessment in all of the disciplines

ENTRY LEVEL STANDARDS

This is the same for all PSIA snowsports

Requirements

a) Be 18 years of age
b) Be sponsored by a PSIA-I member snowsports school.
c) Complete Entry level requirements and evaluation sheet through your snowsports school.
d) Submit to the PSIA-I division office an Entry level membership application with the appropriate dues.

Entry level member will receive the division newsletter and publications but will not become a voting member until they become certified level I.

LEVEL I STANDARDS

Requirements

a) Be an entry-level instructor in good standing in PSIA-I.
b) Be employed by a PSIA-I member snowsports school.
c) Fill out level I workbook.
d) Send in completed workbook, completed copy of portfolio *(first three pages)* and registration form signed by your director. The division office should receive documents *two weeks* prior to the one day clinic and assessment .

Before attending a Level I Exam you must spend 6 hours on the gear the exam is targeted to. This must be endorsed and signed by your director before you may attend the Level I Exam. This is still an assessment, combined with an aducational clinic, so be prepared to be tested.

Take a single day Level I skiing assessment. *(If you fail the assessment you will need to take another one. Give yourself some prep time and let your trainer help you.)*

LEVEL II STANDARDS

Requirements

a) Be employed by a PSIA-I member snowsports school.
b) Be a level I certified ski instructor in good standing in PSIA-I.
c) Fill out a Level II personal portfolio. Have it signed by a PSIA-I qualified trainer or director to verify that you have completed it .
d) Attend the required certification clinic(s): Level II Prep Clinic which includes the following:Skiing Movements/Mechanics and a Core Concepts (Teaching).

e) Successfully complete the level II written exam. (To be taken the morning of the assessment).

The division office should receive registration *two weeks* prior to the assessment.

Take a TWO-day level II Skiing/Core Concepts assessment. During this assessment it is set up to judge the instructors abilities that relate to the following guidelines.

A Level II Ski Instructor is defined as one who has a working knowledge of The Core Concepts Manual and is able to ski with balance and control in most terrain and snow conditions. They should be able to effectively work with the public as well as their peers up to this level. In addition, Level II candidates should be able to do at least the following:

1) Demonstrate a basic understanding of progression development, skill analysis and development, equipment, skiing mechanics, biomechanics and movement analysis.
2) Demonstrate a working understanding of the skills involved in the performance of the Core Concepts Manual and the Current Nordic Manuals.
3) Understand how speed, terrain, snow conditions and the skier's equipment and physiology affect the performance of the Key Skiing Elements.
4) Effectively vary the skills of each Key Skiing Elements to adapt to most terrain and snow conditions at various speeds.
5) Clearly perform skiing tasks as asked by the examiners.
6) Clearly exhibit an understanding of Core teaching concepts including class handling methods and communications.
7) Clearly communicate an understanding of risk and safety awareness.
8) (Backcountry Level II Only) Have good leadership skills and an understanding of First Aid, Avalanche Safety, and

LEVEL III STANDARDS

Requirements

a) Be employed by a PSIA-I member snowsports school.
b) Be a level II certified ski instructor in good standing in PSIA-I.
c) Successfully complete the level III written exam. (To be completed the first morning of the assessment).

The division office should receive Registration *two weeks* prior to the assessment.

Attend the required certification clinic(s): Level III Prep Clinic which includes the following: Skiing Movements/Mechanics and a Core Concepts (Teaching).

A Level III Ski Instructor is defined as one who has a **thorough knowledge** of The Core Concepts Manual and ANY of the Current Nordic Manuals and is able to skillfully and dynamically ski any and all terrain and snow conditions. Level III candidates should be able to demonstrate a high degree of precision and proficiency in all skiing and teaching situations and be able to effectively work with the public and their peers at all levels. In addition, they should be able to do the following:

1) Clearly demonstrate a through understanding of progression development, skill analysis and development, equipment, skiing mechanics, biomechanics and movement analysis at all levels of skiing.
2) Clearly exhibit an understanding of fundamental Core teaching concepts including class handling methods and communications.
3) Demonstrate a through understanding of the Key Skiing Elements described in the current Nordic manual including how and why they are done plus what effects terrain, snow, the skier's equipment, physical conditioning have an effect on the performance of the Key Skiing Elements.
4) Effectively vary the skills of each Key Skiing Elements to adapt to most terrain and snow conditions at various speeds.
5) Clearly communicate an understanding of risk and safety awareness.

DECL DIVISIONAL CLINIC LEADER STANDARDS

Requirements

a) Be employed by a PSIA-I member snowsports school.
b) Must Be a Level III in the needed /desired job description

This is a job interview. At this level you will become a part time employee of PSIA-I and the Nordic Department. The DECL tryouts are scheduled as needed by the Nordic Committee.

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DECL JOB REQUIREMENTS

All the following requirement must be met in order to remain a current DECL.

It is mandatory to participate in all Nordic DECL training sessions. Fall training will remain mandatory, Spring Meeting at Spring Clinic is a recognized work meeting, and it is highly recommended that all Nordic DECL attend.

Works through PSIA-I office to coordinate the scheduling and implementation of PSIA-I Nordic education/certification events.

Submit one article to the EDGE each season. Mail two copies, ONE to Rodger Renstrom EDGE EDITOR, 4664 Clearview Street, Salt Lake City, Utah 84117. SECOND copy to Christopher Ulm Nordic Chairperson, 3734 s 810 e SLC, UT 84106.

Adhere to all general PSIA-I policies and specifically to Nordic Policies and Procedures.

Maintain a minimum of 12 clinic hours per season. DECL's are required to log 12 hours as a clinic participant every 3 years.

Participate as a DECL in a minimum of one PSIA-I Nordic Clinic or Nordic Assessment per season.

Comply with Nordic DECL Performance Appraisal Process designed to evaluate a Nordic DECL's performance and ensures quality of service to PSIA-I and it's members.

Send expense forms after clinics and assessments within one week of event to PSIA-I office. A duplicate copy of all expense and event reports must also be sent to the Nordic Chairperson.

Must be punctual and prepared for all events whether working, shadowing, or training.

Complete other tasks as assigned by the Nordic Chairperson.

DECL Qualification Process

Once hired as a DECL you will be required to first master the clinic process, and then become an examiner.

1) Shadow a Clinic
2) Work a Clinic
3) Shadow an Assessment and get signed off by Lead Examiner
4) Able to Work Assessments

SCORING AND EVALUATION

The candidates will be examined by at least two and if possible, three separate examiners and graded in three areas: skiing skills, teaching abilities and technical knowledge. Scoring is done on a pass/fail basis. A candidate must receive at least two passing scores in each of the three areas in order to pass the assessment.

SKIING SKILLS:

Candidates are evaluated on their free skiing and demonstrations in all of the conditions as they are present on the day of the assessment. Candidates must pass two thirds of the Key Skiing Elements for the discipline of the assessment.

Free Skiing: Candidates are evaluated on their ability to adapt their skiing to the terrain and assignment given. Tasks may be assigned by an examiner or by the candidates as part of their teaching efforts. For example, an examiner may request candidates to alternate stride double pole with double pole technique. Candidates may be asked to ski individually, in pairs or as a group.

Demonstrations: Most demonstrations occur as a natural part of the group activities. However examiners may stop the group and request a specific demonstration of any maneuver, exercise, or task, including those not mentioned in this manual. When a specific demonstration is requested, the examiner will briefly explain and provide a visual demonstration of what is expected.

TECHNICAL KNOWLEDGE:

Candidates are evaluated on what they say about ski technique and the development of skiing skills. Examiners gather information concerning a candidate's level of technical knowledge by: observing the candidate's teaching at different levels, emphasizing different skills; listening to group discussions about the variety of topics brought up in the assessment; and by the question and answer process. Candidates may be asked to evaluate the skiing of other candidates, scoring their skiing and may be asked to do a self evaluation. A grade in technical knowledge is determined by the candidate's understanding of:

Progression Development for all skill levels of The Core Concepts Manual and Discipline Specific Manuals taking into consideration the conditions, the skiers being taught, and their equipment.

Skill Development for all levels of skiers as dictated by terrain, speed, snow equipment, etc.

Equipment Knowledge such as how equipment works, how it is selected, safety features and the effect skis, boots, etc have on a skier's performance.

Biomechanics and how a person's physical structure and conditioning will effect performance.

Movement Analysis: what is happening, why and how to improve performance.

Level III candidates should be highly skilled in all areas, especially movement analysis. They should be able to accurately describe what is happening in any given situation by being able to select the primary movements and secondary movement patterns, explain why they are occurring, and determine goals for improvement

CORE CONCEPTS KNOWLEDGE:

This grade is determined by **how** a candidate teaches, **not by what** is taught. A candidate may explain something incorrectly (resulting in a lower technical score), but follow sound teaching principles (resulting in a higher score for the teaching phase).

There will be no stage or mock teaching situations. The candidates must work with the others in the group by either helping them improve their own skills or by clinicing them on how to teach students of a specified skill level. Examiners may ask a candidate to demonstrate a particular error or movement pattern to determine if the individual doing the teaching can effectively analyze movement and provide pertinent feedback.

Examiners will focus upon the following areas to determine if a candidate has an acceptable understanding of teaching knowledge:

Communication Skills: goals, sensitivity to the group's needs, checking for understanding and, most importantly, giving specific, pertinent and positive feedback.

Safety Awareness: appropriate terrain, hill safety, choosing safe places to ski or stop and talk, etc.

Class Handling Skills: Talks clearly, demonstrates what is to be done, gives specific positive feedback, etc.

Teaching Philosophy: positive attitude, sincere, supportive, honest, etc.

Level II Candidates should know their ski school progression, be knowledgeable of all Key Skiing Elements and be able to emphasize skills while teaching or clinicing the other candidates.

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Scores for each day, as well as critiques, will be collated and given to each candidate at the conclusion of the assessment.

ASSESSMENTS

The following information applies to the **Track Assessments (TRACK)** and the **Nordic Downhill Assessment (ND)**. The Key Skiing Elements for each assessment are listed at the end of this section. The **Backcountry Guide Assessment** will be explained in the next section.

EXAM FORMAT

All candidates will meet the first morning of their assessment at 8:00 AM at the designated assessment area and meeting place. introductions will be given and each candidate will be placed into a group. BE PROMPT.

All assessments except for the Backcountry Assessment will last two days.

Assessments can be changed at the digression of the Clinician due to weather, time, or judgement.

Daily Activities

8:00 AM	(First day assemble at designated place)
8:15	Written test (First day only)
8:30	Groups assemble
9:00 to 4:30	Warm up runs
	Situational Skiing
	Key Skiing Elements
	Teaching Situations
4:30 to 6:00	Indoor Technical Sessions (Discussions, video analysis, etc)

Last Day Activities

At the end of the assessment, the examiners will collect all name tags from the groups and hand out critique sheets to be filled out by the candidates on the assessment process and the examiners.
The examiners will correlate the scores, determine the results and complete the critiques for each candidate. Critiques and results will be announced as soon as possible that evening. Be prepared to wait several hours for the results.

The results may be discussed with the examiners after a reasonable waiting period.

THE CORE CONCEPTS & KEY SKIING ELEMENTS

The Core Concepts are a teaching/learning model that represents the current focus of ski instruction with the evolution of equipment and ski technique in the United States. It is based on the CORE philosophy of outcome-oriented, student-centered teaching principles and the development of skiing skills. This addition to CORE is an innovative and workable structure works with the Key Skiing Elements:

* Key skiing Elements that establish a clear, dependable point of reference and define a *norm* for skill use and skiing mechanics.

* a *framework* for utilizing *variations* of these skiing standards which encourages the exploration of skill adaptation and creates a format for lateral learning.

Each Key Skiing Elementx illustrate a balanced use of skills at developmental stages, while the variations - which fall on either side and in between each standard -allow for countless approaches in exploring skill use, ski conditions, and accommodating a skier's psychological and physical needs.

The Key Skiing Elements are a product of all the research, development and established principles that have contributed to what the Manuals state today. In addition, it supports the long standing goal of a nationally unified ski system.

KEY SKIING ELEMENTS

The Key Skiing Elements are disciplines and the manifestation of the basic skills of skiing. The performance of each standard distinctly reveals how balance, edge, pressure, and rotary forces are interrelated. Through the full spectrum of the Key Skiing Elements give an accurate frame of reference can be developed from which we can define and improve our skiing, teaching, and knowledge.

Characteristics of the Key Skiing Elements

Elegant/Efficient

- precise, clean, accurate
- dynamic balance is achieved by allowing the center of mass to flow smoothly

Stance/Balance

- a functional relationship of the legs - not contrived, not locked. In general we look for a fairly tall stance that allows for greater musculo/skeletal efficiency and accuracy.
- balanced on the whole foot, with the ability to work the whole ski.
- upper body is disciplined but dynamic

CROSS COUNTRY LEVEL II & LEVEL III TRACK EXAM

Level II Cross Country Techniques

CLASSIC TRACK TECHNIQUE
Diagonal Stride
Uphill Diagonal
Double Pole
Double Pole w/ a kick

SKATING
Diagonal Skate
Marathon Skate
V-1 Skate

DOWNHILL TECHNIQUES
Wedge Turns
Telemark Turns

Level III Cross Country Techniques

CLASSIC TRACK TECHNIQUE
Diagonal Stride
Uphill Diagonal
Double Pole
Double Pole w/ a kick

SKATING
V-1
V-2
V-2 Alternate
Diagonal Skate
Marathon Skate

DOWNHILL TECHNIQUES
Wedge Turns
Telemark Turns

BACKCOUNTRY TOURING SKILLS
Level II Nordic Only

Map & Compass
First Aid & Accident Management
Leadership and Group Handling
    Guiding Techniques
Routefinding and Avalanche Awareness
General Backcountry Skills
    Skin Application
    Backcountry Trail Techniques
    Tour Planning
    Etc.
Equipment Repair
Environmental Awareness
Free Skiing
    Ability to ski variable conditions
    Adaptations for skiing with a pack
Fire Building
Emergency Shelter Building

SUGGESTED DAY PACK CONTENTS

The following is a list of items you should consider carrying to deal with situations that may arise in backcountry guiding. A guide's resourcefulness will dictate which items he/she feels it's necessary to carry.

- Repair Kit
- Spare binding & screws
- Spare basket
- Pole Repair Kit
- Length of cord
- Wax Kit
- Shovel
- Water Bottle
- Extra Food
- Knife
- Flashlight
- Extra Batteries
- Stove / Fuel / Pot
- Toilet Paper
- Waterproof Matches
- Candle
- Emergency Phone # List & Quarter
- Shell Garments
- Down Vest / Jacket
- Warm-up Pants
- Down socks or booties
- Spare Hat
- Spare Gloves
- Spare Sunglasses
- Ground Cloth / space blanket
- Sitting Pad
- First Aid Kit
- Compass
- Maps of the area
- Sunscreen
- Lip Balm
- Notebook & Pencil
- Flagging

CLASSIC TRACK KEY SKIING ELEMENTS

1) DIAGONAL STRIDE

The fundamental nordic technique for flat or slightly uphill terrain, similar to running but having a distinct glide phase and using a pole push. The term "diagonal stride" refers to the fact that the diagonally opposite arm and leg move simultaneously, as in walking. Weight is transferred smoothly to the gliding ski as glide velocity is maintained with a poling beginning as soon as possible in the free glide phase. The stride consists of three (3) phases (which flow together in the accomplished skier): 1) a free glide phase, 2) a poling phase, 3) a push off or kick phase. The body maintains a natural athletic stance during the stride.

Terrain - Flat of rolling areas, or slight uphills

DISCUSSION:

Leg Work

- Initiation of push off center of mass is well forward
- Push off begins when legs pass on another
- When push off is finished, weight should continue forward & over onto the gliding ski
- While gliding there should be a slight extension of the gliding leg
- During return stroke the muscles in the knee & ankle should be relaxed creating smooth movement.
- Extension of the hip joint begins before the opening of the knee and ankle
- The smaller the angle of the force to the ground the larger the horizontal propulsive force

Arm Work

- Arm & shoulders should be kept low during the return stroke
- Plant pole to rear and near the forward foot (position will vary with pole length). Pull starts before pole is planted.
- Weight should be out over the pole as it's planted & applied throughout the pull
- Pull & push is parallel to the tracks
- Elbow slightly bent throughout the pull
- As pole push is finished, relax and loosen the hand
- The smaller the angle of the force to the ground, the larger the horizontal propulsive force will be

2) UPHILL DIAGONAL STRIDE

This is a diagonal stride with the following modifications for uphill terrain: shorter stride length; increased tempo to maintain momentum; definite weight transfer to put maximum pressure on the wax pocket; poles are planted farther behind; pole push is shorter and more vigorous; eyes focused ahead to help maintain position over the feet; and reduced free glide phase.

Terrain - Hills of moderate to intermediate steepness

DISCUSSION:

Timing
- Tempo is increased to maintain momentum
- Poles are planted quicker

Weight Transfer
- By sliding the foot as far forward as possible, the heel is momentarily weighted
- Complete weight transfer to the forward foot

Direction of Force
- Kick is quick & explosive to eliminate time spent on a stopped ski.
- Force is applied immediately to pole, pulling down then pushing off
- Letting foot slide ahead of the knee applies maximum pressure to the gripping ski

Extension
- Pole is planted further behind (less forward arm extension)
- Forward foot is pushed ahead farther than on the flat in an attempt to move the ski as far forward as possible
- Heel leg is extended and hip is raised

3) DOUBLE POLE

A technique for forward propulsion using both poles simultaneously. Both arms are brought forward with a swinging motion. The poles are planted well ahead of the feet (may vary with pole length). A downward pull is applied on the poles by compression in the upper body. The position of the arms in relation to the torso remains the same during the compression phase. (Ideal arms position is with a 90 degree bend between the forearm and upper arm with forearms parallel to pole shaft. Requires skating length poles to achieve this). When the back is nearly level (but not below level) to the ground, the arms swing back and extend with a powerful push on the poles (push phase). On completion of the push phase the arms swing forward ready for the next double pole and the body resumes a forward position over the skis (recovery phase).

Terrain - Flat or downhill, with or without tracks.

DISCUSSION - Double poling consists of a pull, a push and a return stroke phase.

Pull Phase
- Weight should be well forward
- Body "falling" forward
- Legs nearly straight, body relatively erect
- Arms and shoulders project forward
- Shoulders are kept low
- Aggressive pull with abdomen, shoulders, & arms
- Upper body follow pull down and to the rear
- Slight bend to the knees during motion, NO Sitting!
- Elbows bent, forearm and upper arm at 90 degree angle (pole length permitting) upper body contraction starts motion, arms finish in push phase

Push Phase
- Arms pass the legs, below the knee level
- Grip on poles is loosened, hands open and relaxed
- At end of push, weight may move back slightly

Return Stroke
- The shoulders and hands should follow a low arc forward

4) ONE STEP DOUBLE POLE (DOUBLE POLE with a KICK)

The one-step double pole is a combination of diagonal stride and double poling. Both arms swing forward and the body and leg extend in a stride. Then a double pole push follows as the rear foot swings forward even with or slightly ahead of the supporting foot.

Terrain - Flat or slightly uphill or downhill, with or without tracks.

DISCUSSION - The same components of the double pole are used and a step (kick) is added to increase momentum and efficiency.

Timing
- Step comes first, then the double pole, cadence is step/double pole.
- At initiation of step, feet are together, weight is forward, hips are over feet
- Forward lean increases as speed increases
- Hands should be at their lowest point while the step is occurring
- At termination of kick the poles should have been planted and components of the double pole initiated.
- As rear leg swings forward the poles are finishing their push
- Arm recovery forward begins as speed lessens and another kick is needed.

Direction of Force

- For greater speed, power will come from the step (kick)
- Step (kick) is with a flexed leg
- Hands should be at their lowest point while the kick is occurring to contribute downward momentum into the kick force.
- Leg extension combined with forward reaching arms adds to forward momentum.

Weight Transfer

- At termination of kick phase, the rear leg is extended & all body weight is on the forward or gliding ski
- Feet should precede the hips with weight back on the heels to create best possible glide.

SKATING KEY SKIING ELEMENTS

Skating can be broken down into two components:

1) Leg Motion 2) Arm Motion

Leg motion remains basically the same with all skates, while the difference in the timing and use of the poles differentiates the skates from one another. Therefore, the description of the skating stroke (Leg Motion) will be true for all skating techniques and the discussion for each technique will focus on the Arm Motion and the timing differences between each skate.

BASIC MECHANICS OF THE SKATING STROKE (Leg Motion)

A) LOAD UP

- The goal is to achieve a strong push that will be long and powerful without slipping.
- This is achieved by bending your knee and "loading up" the weight on your pushing ski.
- At the end of the load up phase (lowest position), and before the pushing phase actually begins, the poles would have been planted and already have passed the hips.

B) PRIMARY WEIGHT TRANSFER

- This is the basis for all power in the skate stroke.
- The start of the lateral motion in the stroke begins by moving your center of gravity toward the new ski.
- This is accomplished by initiating the primary weight transfer with the hip, thus leading the rest of the body through the push and onto the gliding ski.
- By leading with the hip you will naturally roll the pushing ski over and onto the inside edge. Do not roll the ankle or knee in.
- At this point the push in the stroke actually begins.

C) SECONDARY WEIGHT TRANSFER

- Put the free foot firmly down on the snow and continue to straighten the pushing leg.
- As the push is completed, give your knee a slight snap to the straightened position.
- As your weight is transferred onto the new gliding ski, you should rise up onto that ski and let your weight be supported by your skeletal structure with a toe/knee/nose alignment.

1) V-1 SKATE

The Key Elements of the V-1 Skate are:

- Both poles and the strong side ski hit the ground at the same time. Advanced skiers will plant their poles slightly before the ski makes contact with the ground.
- Hang Pole is planted vertically and close to the foot
- The Push Pole is angled out to the side so that it contacts the snow just outside the weak side ski
- The kick begins slightly before the arms reach the leg area
- The weak side ski is moved up and forward during the push phase
- During the kick the upper body moves up and over the gliding ski (weak side ski)
- Advanced skiers will use a forward step up the hill with each skate
- Complete weight transfer from ski to ski
- Eye/Knee/Ski alignment

2) V-2 SKATE

The Key Elements of the V-2 Skate are:

- Double pole every skate
- Poling occurs before kick begins
- Poling is in the direction that the body (Center of Gravity) is going
- Hands do not cross over in front of body, rather they are out in front of the shoulders.
- Complete weight transfer from ski to ski
- Eye/Knee/Ski alignment
- Slight compression (and recovery)

3) V-2 ALTERNATE SKATE

The Key Elements of the V-2 Alternate Skate are:

- Double pole every other skate
- Push begins as the hands reach the knees
- Arms recover to the side as the ski floats back
- Poling is in the direction that the body (Center of Gravity) is going
- Hands do not cross over in front of body, rather they are in line with the shoulders.
- Lean forward in the direction of the new gliding ski (elbow must stay bent)
- Arms are never static
- Complete weight transfer from ski to ski
- Eye/Knee/Ski alignment
- Slight compression (and recovery)

4) MARATHON SKATE

The Key Elements of the Marathon Skate are:

- Combination of double poling and skating to the side with one leg while gliding on the other.
- Both poles and the pushing ski make contact with the snow at the same time. Advanced skiers will start their skate a bit sooner than the poling motion.
- After poles are planted the weight shifts to the pushing ski
- The kick foot is planted next to or slightly ahead of (at high speeds) the glide foot
- The angle of the skating ski decreases as speed increases
- The upper body should be brought back over the glide ski slightly before the final part of the pole and kick motion.
- Hips and upper body perpendicular to the track
- Complete weight transfer from ski to ski
- Eye/Knee/Ski alignment

5) DIAGONAL V-SKATE

The Key Elements of the Diagonal V-Skate are:

- Essentially this is merely a herringbone with a glide
- Poling motion is the same as in a diagonal stride
- Pole is planted slightly before the opposite ski touches the snow.
- Lean forward more with the upper body (don't bend at the waist)
- Advanced skiers will use a forward step up the hill with each skate
- Complete weight transfer from ski to ski
- Eye/Knee/Ski alignment

DOWNHILL TRACK KEY SKIING ELEMENTS

1) WEDGE TURNS

Beginning from a straight gliding wedge, both skis are steered in the direction of the turn. The forces in the turn increase pressure on the inside edge of the outside ski. The turning ski is controlled by pressure, steering and edging. Upon completion of the turn, the skis are steered in the direction of the next turn. The demonstration shall be finished in a wedge turn to a stop. Appropriate upper body movement, along with natural positioning and balance, is maintained throughout the turn.

The Key Elements of the Wedge Turn Are:

- Skidded Ski
- Slight Hip angulation
- Axial Movements
- Round Turns
- Slow and Even Speed
- Constant Wedge Width
- Foot Steering
- Flexed Knees and Ankles

2) TELEMARK CHRISTY WITH POLE PLANT

From a parallel straight run the telemark turn is initiated by steering both feet in the direction of the intended turn. Steering edge control, and pressure control begin before crossing the fall line and increase throughout the arc of the turn. At the initiation the outside ski will move forward more than the inside ski, causing a longitudinal separation of both skis. The back knee should be somewhere in the general area under the hip, but never behind the hip. The heel of the rear foot is raised off the ski. Turns shall be linked without a traverse.

The Key Elements of the Telemark Turn Are:

- Parallel ski position
- Edge control - steering
- Equal pressure on both skis
- Slight upper and lower body separation
- Lead change coincides with a distinct vertical motion
- Constant speed and radius

Nordic Downhill

Standards

NORDIC DOWNHILL STANDARDS

1) WEDGE TURNS

Beginning from a straight gliding wedge, both skis are steered in the direction of the turn. The forces in the turn increase pressure on the inside edge of the outside ski. The turning ski is controlled by pressure, steering and edging. Upon completion of the turn, the skis are steered in the direction of the next turn. The demonstration shall be finished in a wedge turn to a stop. Appropriate upper body movement, along with natural positioning and balance, is maintained throughout the turn.

The Key Elements of the Wedge Turn Are:

- Skidded Ski
- Slight Hip angulation
- Axial Movements
- Round Turns
- Slow and Even Speed
- Constant Wedge Width
- Foot Steering
- Flexed Knees and Ankles

2) PARALLEL TURNS WITH POLE PLANT

Beginning from a straight run, this turn is initiated by steering both legs in the direction of the intended turn. Edge engagement, steering and pressure control begin before crossing the fall line and increase throughout the arc of the turn. The demonstration shall be finished in a parallel turn to a stop. Turns shall be linked without a traverse.

The Key Elements of the Parallel Turn Are:

- Parallel skis
- Carving in a round even arc
- Close ski stance (hip width)
- Independent legs
- Simultaneous edge change
- Snow contact with skis at all times
- Anticipation
- Sharp, crisp finish

3) TELEMARK CHRISTY

From a parallel straight run the telemark turn is initiated by steering both feet in the direction of the intended turn. Edge engagement, steering and pressure control begin before crossing the fall line and increase throughout the arc of the turn. At the initiation the outside ski will move forward more than the inside ski, causing a longitudinal separation of both skis. The back knee should be somewhere inthe general area under the hip, but never behind the hip. The heel of the rear foot is raised off the ski and the ball of the rear foot is on the ski. Turns shall be linked without a traverse.

4) STEM STEP TELEMARK

From a parallel straight run the telemark turn is initiated by stepping forward and stemming the uphill ski in the direction of the intended turn. This is followed by stepping the rear ski in alongside the front ski, weight should subsequently become equal on both feet. The back knee should be somewhere in the general area under the hip, but never behind the hip. The heel of the rear foot is raised off the ski and the ball of the rear foot is on the ski. The demonstration shall be finished in a telemark turn to a stop. Turns shall be linked without a traverse.

The Key Elements of the Stem Step Telemark Are:

- Basic Telemark position
- Sequential lead change and weight transfer
- Equal pressure on both skis at end of turn
- Slight upper and lower body separation
- Constant speed and radius

5) SHORT RADIUS JUMP TELEMARK

From a parallel straight run the telemark turn is initiated by unweighting both feet while simultaneously changing both edges and steering both skis into the direction of the intended turn. After edge engagement, steering and pressure control increase throughout the arc of the turn. The back knee should be somewhere in the general area under the hip, but never behind the hip. The heel of the rear foot is raised off the ski and the ball of the rear foot is on the ski. Turns shall be linked without a traverse.

The Key Elements of the Short Radius Jump Telemark are:

- Simultaneous lead change coincides with a distinct vertical motion
- Positive edge engagement
- Equal pressure on both skis at finish of turn
- Constant speed and radius

6) DYNAMIC TELEMARK

From a parallel straight run the telemark turn is initiated by steering both feet in the direction of the intended turn. This medium speed and radius turn is characterized by obvious hip angulation and vertical motion, a pole touch on the up motion and a fluid motion throughout the turn. Edge engagement, steering and pressure control begin before crossing the fall line and increase throughout the arc of the turn. The back knee should be somewhere in the general area under the hip, but never behind the hip. The heel of the rear foot is raised off the ski and the ball of the rear foot is on the ski.

The Key Elements of the Short Radius Jump Telemark are:

- Simultaneous lead change coincides with a distinct vertical motion
- Positive edge engagement
- Equal pressure on both skis at finish of turn
- Constant speed and radius

BACKCOUNTRY GUIDE'S EXAM

PREREQUISITESPREREQUISITE S :

Be a PSIA Level II Nordic certified member in good standing

Three letters of recommendation from people who are familiar with your backcountry expertise

Successful completion of a recognized Avalanche course

Photocopies of the above must be sent in with assessment.

FIELD EXAM CONTENTFIELD EXAM CONTENT

Introduction - This is a three-day, two night assessment, during which candidates will be tested on a wide range of subjects. The following descriptions are brief, but should give you a general idea of the subject matter covered. It is expected that candidates will carry the necessary equipment to appropriately respond to situations in each area.

Assigned Point Spread

1 - 10 **AVALANCHE**: Snow pit site selection, snow-pack profile analysis, and slope stability evaluation. Introduction to clients on the use of the Avalanche Transceiver - it's operation and search techniques. Search organization and conduct with the Avalanche Transceiver. You must also understand and be able to organize and conduct a search **without** the use of Transceivers.

1 - 10 **BACKPACK CONTENTS**: During the field assessment candidates should assume they are guiding a trip with three clients and prepare their packs accordingly, with the exception of food and cooking gear. Candidates will be interviewed and graded at the pack inspection prior to departure, as well as during the field assessment.

1 - 10 **ROUTEFINDING and TECHNIQUES of TRAVEL**: Candidates will be evaluated on route selection with respect to safety and easy of travel, directness and efficiency of the route (under the given snow conditions), and group comfort and ability (as set by the examiner). Evidence of a candidate's evaluation skills of both visual and map interpreted dangers is essential.

1 - 10 **LEADERSHIP and GROUP HANDLING**: Candidates must demonstrate the ability to recognize and respond to group and individual safety, comfort, and skiing ability and to keep the group moving cohesively and having fun. Candidates will be asked to lead the group numerous times during the course of the assessment. Leader changes can occur at any time, so one should always be prepared to assume this role and be able to pinpoint the group's location on the map.

1 - 10 **MAP and COMPASS**: To show solid practical knowledge of map interpretation and navigation skills, candidates will be asked to:

1) Locate one's position on the map accurately at any time during the assessment. The emphasis here will be to always know where you are on the map by interpretation of terrain features.

2) Orient a map without a compass, using terrain.
3) Orient a map with a compass allowing for appropriate declination.

4) Take bearing and back-bearings on visible landmarks and transcribe these bearings on to the map.

5) Take a bearing on a point on the map that is out of sight on the ground, signify the direction and distance of that point on the ground and explain how one would lead a group to that point - and why via that particular route.

1 - 10 **SHELTERS**: Candidates will be expected to construct two types of snow shelters during the course of the assessment. The first night out, candidates will construct and occupy a one man shelter, which may also be used the second night. At some point during the assessment, candidates will be asked to construct an emergency shelter for four (4) people. No tents are permitted on the assessment. Site selection, shelter suitability, comfort and safety, as well as speed and efficiency of construction will be evaluated.

1 - 3 **ENVIRONMENTAL IMPACT**: During the assessment, candidates are expected to demonstrate environmental awareness in campsite selection, human waste disposal, trash handling, etc. Personal hygiene and how it relates to group sanitation will also be evaluated.

1 - 4 **FIREBUILDING**: You must demonstrate the ability to start and sustain a fire large enough to warm four people quickly and effectively, Site selection will be evaluated. Fire starters such as Fire Ribbon are permitted.

1 - 10 **FIRST AID**: During the assessment, candidates will be asked to demonstrate by practical exercise and discussion, a thorough knowledge of backcountry/winter first aid. First Aid kits will be carefully evaluated.

1 - 3 **EVACUATION**: Candidates will need to be able to explain and if asked, to build a workable evacuation device. The essential question will be: "what would you do in a given situation if an injured skier needed evacuation?"

1 - 5 **PERSONAL EQUIPMENT and CLOTHING**: Candidates will be evaluated on choice of clothing and equipment as to its suitability and dependability for the backcountry environment. Please bring skins and a backcountry wax kit.

1 - 5 **REPAIR KIT**: Candidate's repair kit will be evaluated for content and practical suitability in dealing with situations that may arise in backcountry guiding.

1 - 5 **TEACHING SKILLS**: Candidates will be asked to teach various ski and travel techniques during the course of the assessment.

1 - 5 **SKIING PROFICIENCY**: Candidates will be evaluated on overall ability in the use of skis in a variety of situations. Emphasis will be on stability and control, using appropriate technique for the terrain and snow conditions encountered.

SCORING: Each area will be scored according to the assigned point spread - which indicates the relative importance of each area. A total score of 60 (of the 100 possible) constitutes passing, however, getting a score lower than six (6) in the critical area of Avalanche will fail a candidate on the entire assessment.

Get the Steering Committee to make a decision on the percentage needed to pass.

RECOMMENDED READING LIST

Avalanche Handbook (Agriculture Handbook 489)
U.S. Department of Agriculture / Forest Service

Advanced First Aid
American Red Cross

Be an Expert with Map & Compass
Bjorn Kjellstrom

Snow Camping
Ron Waters

Backcountry Skiing
Vic Bien

Wilderness Search & Rescue Techniques
Wayne Steckinka

CORE CONCEPTS MANUAL
Professional Ski Instructors of America

ATS - Strategies for Teaching
Professional Ski Instructors of America

ATM - Teaching Concepts
Professional Ski Instructors of America

ATM II - Progression and Ski Mechanics
Professional Ski Instructors of America

ATM Nordic - Teaching Concepts
Professional Ski Instructors of America

Norwegian Level 1 XC Ski Coaches Manuals (3 booklets)
U.S. Ski Coaches Association

ATS NORDIC
Professional Ski Instructors of America

Child Centered Skiing
Professional Ski Instructors of America

NORDIC CLINIC / EXAM APPLICATION

NAME:_____
First Middle Last

ADDRESS:_____

TELEPHONE:_____
(area code) Home Work

CERTIFICATION STATUS AND NUMBER:_____

Please Register Me for the Following:

All Clinics _____ $25.00/day

Nordic Level II Assessment _____ $90.00

Nordic Level III Assessment _____ $90.00

Backcountry Guide's Assessment _____
$135.00

Assessment / Clinic Location:_____**Date:**_____

REQUIREMENTS: Each event and certification level have specific requirements. Please note the requirements in the previous sections of this manual and include photo copies of needed items with applications.

This application, complete with payment and photo copies of credentials must be post marked 14 days prior to the event. This time period is crucial in insure proper organization for the event. **Late Fee:** A Ten Dollar late fee will be applied to all late applications.

Send a check or money order to:

PSIA-I Nordic
Nancy Perkins, Secretary
2855 Pamela Drive
Salt Lake City, UT 84121
(801) 942-2066 (9AM to 4PM)

REFUND POLICY

Notice before deadline - Full Refund
Notice after deadline, but before event -50% Refund
No Notice given to office before event - **No Refund**
(A $5.00 handling fee will be retained with all refunds)

ACKNOWLEDGMENTS

The many hours of volunteer time that the following people put into producing this manual is an example of what it takes to keep our organization strong. These people are true skiing professionals who care about the quality of our programs and the future of ski instruction.

Tom Amberson
Mike Keator
Shirley Rosenquist
Ken McCarthy
Kelly Rhoads
Christoph Schork
Charlie Rubelmann
Kathy McCarthy

Sincerely,
Chi Melville
Nordic Certification Chair
1990-91

This revised edition reflects changes and the evolution of the PSIA-I Nordic education / certification process. Special thanks to key players in the ongoing development of the division's nordic program.

Chi Melville
Craig Panarisi
Shirley Kinsey
Sam Palmatier
Randy Huskison
Lance Swedish
Greg Underwood
Scott Wood

Many thanks,
Scott McGee
Nordic DECL 1999

Revised to reflect current cert manuals and keep consistency throughout snowsport instruction in the intermountain division.

Best,
Christopher Ulm
Nordic Certification Chair
2000-present