



# Cross Country Training System

Foundation Stage		Pre and Post Puberty			World Class Performance Full Maturation
PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6
<p><b>Biological Age</b> Pre Puberty</p> <p><b>Age</b> 2–6 years old</p> <p><b>Play Age</b> 1–4 years in sport</p> <p><b>Participation</b> Ski around 1–3 days a week, or as much as enjoyable Emphasize outdoor recreation Parents encourage play versus training Participate in all sports, including balanced based sports like gymnastics</p>	<p><b>Biological Age</b> Pre Puberty</p> <p><b>Age</b> 6–10 years old</p> <p><b>Training Age</b> 1–4 years in sport</p> <p><b>Participation</b> Ski 2–6 days per week, or as much as enjoyable Emphasize outdoor recreation Parents emphasize activity versus training Fun races Play many other sports</p> <p><b>Sensitivity Windows</b> Males: Suppleness, Speed #1, Beginning of Skills Females: Suppleness, Speed #1, Skills</p>	<p><b>Biological Age</b> Pre Puberty (Before Growth Spurt)</p> <p><b>Age</b> Girls: 10–13: (J4–J3) Boys: 11–14: (J4–J2)</p> <p><b>Training Age</b> 4–8 years in sport</p> <p><b>Participation</b> Ski 4–6 days per week Emphasize outdoor recreation Introduce fun competition period: Jan.–April Number of race starts: 5–15 Play many complementary sports</p> <p><b>Sensitivity Window:</b> Males: Skills, Stamina, Speed #2 Females: Skills, Stamina, Speed #2, Strength</p>	<p><b>Biological Age</b> Puberty (Growth Spurt)</p> <p><b>Age</b> Girls: 11–14: (J4–J2) Boys: 12–15: (J4–J2)</p> <p><b>Training Age</b> Train 4–6 days, 5–9 sessions / week</p> <p><b>Participation</b> Emphasize fun training Competition Period: Dec.–April Number of race starts: 10–20 Play complementary sports Annual Training Volume: J4: Emphasize daily skiing, J3: 300–400, J2: 400–500</p> <p><b>Sensitivity Window</b> Males: Stamina, Speed #2 Females: Stamina, Speed #2, Strength</p>	<p><b>Biological Age</b> Post Puberty (After Growth Spurt)</p> <p><b>Age</b> Girls: 12–16: (J4–J1) Boys: 14–17: (J2–J1)</p> <p><b>Training Age</b> 6–11 years in sport</p> <p><b>Participation</b> Train 5–6 days, 6–10 sessions / week Competition Period: Nov/Dec–April Number of race starts: 20–30 Play complementary sports that do not impede year-round training Annual Training Volume: At least 500 hours by age 17</p> <p><b>Sensitivity Window</b> Males: Stamina, Speed #2 Females: Stamina, Speed #2,</p>	<p><b>Biological Age</b> Full Maturation</p> <p><b>Age</b> Female: 16+ J1+ Male: 17+ J1+</p> <p><b>Training Age</b> Minimum 10+ years in sport</p> <p><b>Participation</b> Ski / Train 6 days a week Competition Period: Nov.–April Number of race starts: 20–40 Annual Training Volume: 16–17: 450–500, 18–19: 550–600, 20–21: 600–650, 22+ 650+</p> <p><b>Sensitivity Window</b> Males: Strength Females: End of Strength</p>
Training Emphasis					
Emphasis on play, fun, skiing and balance.	Emphasis on play, fun, basic agility, balance and coordination. Incorporate activities that develop explosiveness (1-10 sec) and general endurance.	2–4 training sessions per week in season. Further development of previous components. Emphasis on aerobic training and speed play. Incorporate own body weight training and body awareness training.	5–7 training sessions per week in season, including some two-session days. 4–6 training sessions per week out of season. Athlete implements a periodized training program that places stress on the body and subsequently gives it time to recover. Athlete uses both low-intensity aerobic training and high-intensity aerobic and anaerobic training to improve race fitness.	2–3 training or recovery sessions per week in season.  Strength and power, introduce progressively more anaerobic training, endurance, complex agility and balance.	6–10 training sessions per week in season, including some two-session days. 7–12 training sessions per week out of season. All components of the athletes training are now fully periodized and individualized.
Technical and Tactical Emphasis					
Has fun on snow Games and play on skis	Has fun on snow Games and play on skis	Demonstrates basic athletic stance on skis Exhibits natural body mechanics on skis Is eager to explore all different types of terrain and snow conditions Able to balance on one ski while skiing gradual downhill Understands difference between running, classic skiing, and skating Can herringbone and snowplow	Good body position, balance and weight shift Demonstrates ability to maintain appropriate balance and stance while skiing in all terrain and under a variety of conditions Understands concept of changing tempo to suit conditions and terrain ("changing gears ") Discusses racing strategy and pacing with a coach	Refines technique and tactics after growth spurt Integrates increased strength, power and body size to achieve a stronger skiing technique Effective use of different techniques to correspond to changing terrain and conditions Changes techniques smoothly and quickly Understands concept of changing tempo to suit conditions and terrain ("changing gears ") Discusses racing strategy and pacing with a coach	Technical Skills Masters all techniques and develops personal style
Equipment Selection and Preparation					
<p><b>Skis:</b> Skis on one pair of waxless skis, soft flex, and between nose and forehead in height</p> <p><b>Boots:</b> Uses boots that are comfortable and warm</p> <p><b>Poles:</b> Uses one pair of poles for all techniques, or skis with no poles Poles should fit snugly under the armpit</p> <p><b>Ancillary Equipment:</b> Clothing should provide appropriate protection from the elements and keep children comfortable for extended periods of skiing to ensure enjoyment of sport Eye protection should be worn at all times when skiing Uses sunscreen</p>	<p><b>Skis:</b> Skis on one pair of skis, soft flex, and between nose and forehead in height. The skis are to be properly waxed by the athlete, parent or club leader for every day of skiing</p> <p><b>Boots:</b> Uses boots that allow for natural ankle movement, and sufficient warmth</p> <p><b>Poles:</b> Uses one pair of poles for all techniques Poles should fit snugly under the armpit</p> <p><b>Ancillary Equipment:</b> Clothing should provide appropriate protection from the elements and keep children comfortable for extended periods of skiing to ensure enjoyment of sport Eye protection should be worn at all times when skiing Uses sunscreen</p>	<p>freestyle skis for racing and training .Skis should be selected to fit the skiers' weight and height according to manufacturer's recommendations. The skis are to be properly waxed by the athlete, parent or club leader for every day of skiing</p> <p><b>Boots:</b> Uses boots that allow for natural ankle movement</p> <p><b>Poles:</b> Uses one pair of poles for all techniques at beginning of phase, but uses two pairs—one for skate and one for classic later in the phase Poles should fit snugly under the armpit</p> <p><b>Ancillary Equipment:</b> Clothing should provide appropriate protection from the elements and keep children comfortable for extended periods of skiing to ensure enjoyment Eye protection should be worn at all times when skiing Uses sunscreen</p>	<p>Adheres to USSA and FIS rules for all equipment selection</p> <p><b>Skis:</b> May be using classic and freestyle skis for racing. Skis should be selected to fit the skiers' weight and height according to manufacturer's recommendations. A skier does not need more than one pair of skate and one pair of classic skis. Fit is critical! No more than three pair for each technique should be owned by athlete and two of each is more appropriate. Is responsible for maintaining skis at all times</p> <p><b>Boots:</b> Classic and freestyle specific boots may be used Individual adjustments or modifications are made for all anatomical needs for boots to fit properly</p> <p><b>Poles:</b> Should be using poles specifically for classic or freestyle. Classic poles should be between armpit and mid shoulder in height. Skate poles should extend to the chin or mouth</p> <p><b>Ancillary Equipment:</b> Hill-bounding poles should be roughly the height of skier's belly button Athlete wears appropriate footwear and clothing during all physical activities  Athlete has a backpack for extra clothing, water bottle, water bottle carrier, waxing equipment, etc. Athlete has long underwear, windbreaker, warm-up jacket and pants, hat, gloves, racing gloves, wind briefs and/or jog bra</p>	<p>Adheres to USSA and FIS rules for all equipment selection</p> <p><b>Skis:</b> 1) Uses skis for classical and skate, cold, medium and warm conditions. Fit is essential and quality over quantity is emphasized 2) The athlete is responsible for all ski preparation and maintenance. Skis are properly waxed and maintained at all times 3) The athlete carries appropriate kick wax and cork or extra roller ski carbide tips while training</p> <p><b>Boots:</b> Classic, skating and pursuit if required by race circuit</p> <p><b>Poles:</b> Should be using poles specifically for classic or freestyle. Classic poles should be between armpit and mid shoulder in height. Skate poles should extend to the chin or mouth</p> <p><b>Ancillary Equipment:</b> Both classic and skate roller-skis Helmet for roller-skiing is mandatory Uses road-tips on poles when roller-skiing Bright and reflective clothing for roller-skiing is mandatory</p>	<p>Adheres to USSA and FIS rules for all equipment selection</p> <p>Is responsible for having all equipment in perfect working order, to World Cup standards, at all times</p>
Performance Psychology Emphasis					
Fun, variety, positive reinforcement and perseverance. Positive parental support is essential.	<p><b>Sampling Years</b> Teamwork and sportsmanship. Encourage a balanced lifestyle that encourages healthy habits and promotes success in sport and life. Positive parental support is essential. Families get involved with clubs. Fair play is emphasized</p>	Positive self talk, work ethic, perseverance, goal setting with a focus on the process not results. Encourage the use of imagery and visualizing good technique. Demonstrate teamwork and sportsmanship. Positive parental support and club involvement. Fair play is emphasized	<p><b>Sampling Years</b> Positive self talk, work ethic and perseverance, goal setting with a focus on the process and not results. Fair play is emphasized, and an understanding that performance-enhancing drugs are unethical is imperative</p>	<p><b>Commitment</b> Develop and refine race day plan. Develop mental rehearsal routines, refine goal setting process, what to focus on, what works on race day, develop "athletic plan" to approach training sessions and life. Document through journaling. Parents continue to support the commitment of the athlete in the sport. Fair play is emphasized, and an understanding that performance-enhancing drugs are unethical is imperative</p>	<p><b>Specialization and Mastery</b> Refine performance psychology skills: Imagery; goal achievement; performance planning; attention and focus; self regulatory talk and confidence. Identify optimal performance state. Dealing with competition, risk, failure and fear. Parents continue to support the commitment of the athlete in the sport. Fair play is emphasized, and an understanding that performance-enhancing drugs are unethical is imperative</p>
Competition Emphasis					
Competition only exists in the form of games on skis.	Local competition: innovative with a fun focus on interclub competition. Age-appropriate distances	divisional championships which may lead to regional events. Age-appropriate distances	Local racing leads to state and divisional championships which may lead to regional events and Junior Nationals. International experience may be initiated in Canada. Age-appropriate distances	Appropriate level and number of race starts ranging from local to national and international competition. Age-appropriate distances	Regional FIS and local USSA club races, Continental Cups, European FIS races, World Junior Championships, U23 Championships, World Cups, World Championships, Olympics