



# TOBOGGAN INSTRUCTOR PORTFOLIO

Updated 1/26/2022  
Version 1.1

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# Toboggan Mentoring Pathways

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This guide is provided to help provide a path to becoming a new Toboggan Instructor. All Patrollers working on becoming a Toboggan Instructor should first purchase the National Ski Patrol Outdoor Transportation, Principles of Toboggan Handling, this book is what instructors will teach from. The process of becoming a toboggan instructor will take time and the length of the process ranges from two to three years. There are seven modules to move through in this guide with your mentor, who will be assigned from Northern Michigan Region staff though. The final sign off typically occurs during the Calibration Clinic by an IT.

\*Mentors, modules can be presented 2-3 weeks apart with homework assigned before and after sessions. Use of video for instructor skills and teaching sessions should be used. Other considerations would include class management, technical knowledge, movement analysis and “bag of tricks”.

## Modules

1. Fundamental Movements
2. Intro to Toboggan
3. Terrain/Route Selection & Operating Unloaded Toboggan
4. Unloaded Approach & Scene Management
5. Loaded Lead
6. Loaded Tail Rope Operation
7. Administration

# Module 1 – Fundamental Movements

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Reference Pgs. 5-15 OET Manual

Five Skiing Fundamentals with Robin Barnes video

- Located on Central Division Skills Development link  
<https://www.youtube.com/watch?v=JXqgXI5Qxjc>

## **Maneuvers - Alpine/Telemark:**

- Wedge/wedge turns/stem turns
- Sidestep/herringbone
- Sideslip
- Falling leaf
- Traverse
- Moving direction change (transition)/pivot slip
- Short, medium, long radius turns (Alpine/Telemark)
- Parallel turns (skidded and carved)
- Skating
- Kick turn

## **Skiing Fundamentals:**

1. Control relationship of center of mass to base of support to direct pressure along the length of the ski.
2. Control pressure ski to ski with pressure directed toward outside ski
3. Control edge angles through inclination and angulation
4. Control rotary (turning/pivoting/steering) with leg rotation separate from stable upper body
5. Regulate magnitude of pressure created thru ski/snow interaction

## **Skiing Requirements:**

- Consistent speed and control
- Connected and rounded turn shape of varying size
- Parallel turns with simultaneous foot tipping/steering, both feet remain in contact with snow
- Pole touch compliments turn in timing and direction of travel

### **Maneuvers - Snowboarding:**

- Climbing/skating (one foot out)
- 180 jump turn
- Sideslip (toe side/heel side)
- Falling leaf (toe side/heel side)
- Switch
- Pivot transition/ moving transition
- Traverse (toe side/heel side)
- Short, medium, long radius turns
- Carved turns

### **Snowboard Fundamentals:**

1. Maintain balanced stance throughout turns
2. Legs turn board beneath stable upper body
3. Perform controlled direction changes with quiet upper body, shoulders down fall line
4. Perform basic switch riding using a variety of turn sizes
5. Active front foot steering with back foot following through turn
6. Degree of counter appropriate to turn size
7. Pressure management through flexion and extension with independent leg action to negotiate terrain
8. Lower edged skidding is expected in small and medium turns, skidding and carving acceptable in larger turns

### **Snowboard Requirements:**

- Consistent speed and control
- Connected and rounded turn shapes of varying size
- Consistent fall line descent with connected turns

### **Equipment Carry:**

- Demonstrate competence transporting a variety of equipment on a variety of snow and terrain conditions

**Develop “Bag of Tricks” Training Exercises:**

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**CERTIFICATION ASSESSMENT FORM**

**Teaching skills:**

- 1. Lesson is logical: \_\_\_\_\_
- 2. Engages students/group management: \_\_\_\_\_
- 3. Presents to multiple learning styles: \_\_\_\_\_
- 4. Movement analysis/feedback is accurate: \_\_\_\_\_
- 5. Demos are accurate: \_\_\_\_\_
- 6. Accurate terminology: \_\_\_\_\_
- 7. Concise, clear instructions: \_\_\_\_\_
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- 9. Risk awareness: \_\_\_\_\_
- 10. Lesson wrap-up: \_\_\_\_\_
- 11. Remediation exercises: \_\_\_\_\_

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## Module 2 Introduction to Toboggan

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**Resource:** Pgs. 17-30 OET Manual

**Types of Toboggan:**

- Two-handled
- Four-handled
- Improvised/Portable

**Toboggan Anatomy:**

- Shell
- Fins: long/short, deep/shallow, canted/offset
- Handles: fixed/hinged
- Locks
- Chain brake
- Tail rope: 18 feet
- Patient straps
- Accessories: Tow Bar, Up-Haul Carrier, Patient Pad, Patient Tarp

**Discussion Points:**

- Inspection
- Rescue packs (local protocol)
- Toboggan storage (hill protocol/location)

**Develop a “Bag of Tricks” for Training Exercises:**

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# Module 3: Terrain/Route Selection & Operating an Unloaded Toboggan

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References: Pgs. 30- 47 OET Manual

**Route Selection:**

- Local considerations
- Terrain considerations - flats, trails, terrain drops, uphill challenges, off piste, moguls
- Conditions variabilities - deep/heavy snow, breakable crust/crud, ice, powder

**Learning Considerations:**

- Patient Location/Condition
- Traffic
- Fall Line Descent - trail side, need for traverse
- Obstacle Avoidance
- Toboggan Position for Exit

**Develop a “Bag of Tricks” for Training Exercises:**

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# Module 4: Unloaded Approach & Scene Management

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Reference Pgs. 37-48, 49-56 OET Manual

## Approach

### Route Selection:

- Unloaded, Unlocked Handles
- Neutral, Centered Stance

### Position in Handles:

- Hand position - in front of body, hip high
- Counter rotation - keep upper body down the fall line
- Use brake chain in ice and hard pack
- Keep turns and transitions in the fall line
- Use consistent speed
- TWIST for control - downhill handle presses down, uphill handle lifts up
- Expect the unexpected and focus forward
- On snowboard keep heel side as much as possible

### Traverse:

- Position - uphill hand slightly forward, use twist
- Finish your traverse by bringing the toboggan to the fall line (steer it in forward or back it in)
- \*If you have an option, choose long fins for long traverses
- Practice wheelbarrow (positioned facing backwards in the traces) recovery moves when your traverse goes wrong

### Static Direction Change:

- Stepping wedge, kick turn, switch

### Power Stop (Emergency stop):

- Fall line maneuver

## Scene Management

### Approach:

- Considerations include patient position, terrain, hazards, snow conditions, egress

### Secure and Stabilize:

- Anchor devices (skis, boards, tail rope, handles, chain brake, terrain, person)

**Position Patient:**

- Lock handles prior to loading (if not using the handles to secure the toboggan) and
- engage chain
- Position patient in toboggan based on injury
- Never leave the toboggan unattended (must have hands on)

**Clear the Scene:**

- Notify the patrol room
- Obtain witness information
- Confirm safety of patient/toboggan
- Communicate with tail person
- Chose a safe, smooth, short route

**Develop a “Bag of Tricks” for Training Exercises:**

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## Module 5: Loaded Lead

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Reference Pgs. 59-86 OET Manual

Objectives: Descend with stability and control providing a safe, smooth ride

### Front operator:

1. Route selection - consider the route, terrain, snow conditions, patient injury
  - a. Monitor traffic and watch for obstacles
  - b. Keep toboggan in the fall line, demonstrating a variety of turns/transitions to
  - c. control speed
    - i. Types of transitions - wedge, step, parallel, tele, pivot, switch
    - ii. Sideslip/falling leaf
    - iii. Static direction change
    - iv. Power stop (emergency stop)
2. Primary braking - reserve brake principal
  - a. Operator edges/body position
  - b. Chain brake (engaged and feathered), not effective on high traverse
  - c. Up/down pressure on handles to engage fins
3. Obstacle avoidance maneuver - Moving direction change that is done to avoid, unexpected obstacles in route. Speed should be consistent and controlled (unweight chain slightly to facilitate transition)
  - a. Maneuver 1 - transition made in fall line
  - b. Maneuver 2 - transition made before fall line
  - c. Maneuver 3 - S turns
4. Traverse
  - a. Edges and fins engaged to prevent slipping
  - b. Consistent speed helpful
  - c. Transfer weight to uphill hip
  - d. Adjust angle to prevent slipping
5. Static direction change
  - a. Secure toboggan, position out toward end of handles, press down on brake
6. Power stop (emergency stop)
  - a. Done in fall line
  - b. Flex, extend, twist
  - c. Pressure down on the brake
7. Parking
  - a. Go perpendicular and out of traffic
8. Advanced skills (outside handles)
  - a. Four modalities: up, down, push, pull
  - b. Reliance on chain brake: timing is everything
  - c. Toboggan positioned in fall line

**Four Handled Toboggans:**

- Not typically used within the Northern Michigan Region, read for references

**Develop a “Bag of Tricks” for Training Exercises:**

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# Module 6: Loaded Tail Rope Operation

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References: Pgs. 59-86 OET Manual

**Operator objective:** Descend with stability and control, providing a safe, smooth ride

## **Tail Responsibilities:**

- Monitor skier traffic
- Communicate with “Clear” so the Lead know when to start their transition (NMR Protocol)
- Secondary braking
- Anticipate front operator’s actions
- Monitor patient
- Notify lead operator if you lose position
- Assist with flats (tail rope pulls)
- Communicates with lead operator

## **Tail Rope Position:**

- Rope held – in front of body, counter toward the tail of the toboggan
- Maintains functional tension in rope, no jerking or excessive slack
- Both hands active, power hand switches from left to right as direction changes occur
- Tail rope operator helps control speed and adds lateral stability to keep toboggan from slipping
- Stays within +/-10 degrees of fall line
- Matches front operator orientation/direction of travel

## **Tail Rope Ski/Snowboard Maneuvers:**

- Traverse
- Moving direction change (transition)
- Side slip to wedge or pivot
- Falling leaf/diagonal falling leaf
- Static belay
- Moving direction change (obstacle avoidance Maneuver 1, Maneuver 2, and S-turns)
- Avoid simultaneous direction change
- Maintain control above and slightly behind toboggan before, during and after a direction change
- Adjust rope length for brake tension

## **Traverse:**

- Maintain control and position of tail of toboggan above and slightly behind
- Balanced stable stance controlling tension with edges and arms

**Develop a “Bag of Tricks” for Training Exercises:**

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## Module 7: Administration

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### References:

- NSP OET Manual

### Program Management:

- Toboggan Enhancement Seminar
- On Hill OET Refreshers
- Candidate training (all levels)
- Candidate evaluation (all levels)
- Registering and closing a course
- Instructor activity log
- Recertification requirements: Every three years at region level

OET Name \_\_\_\_\_ Date \_\_\_\_\_

IT Name \_\_\_\_\_ Date \_\_\_\_\_

## SIX-PACK LESSON PLAN REFERENCE GUIDE

**LESSON TITLE:** State the specific lesson title. Multi-phased lessons or classes of long duration can use more than one lesson plan.

INSTRUCTOR MATERIALS	STUDENT MATERIALS	REFERENCES
<i>Include all materials you will need for your lesson (Laptop, Projector, CDs, Flip Charts, etc.). This is also important for outdoor presentations. Also include any assistants you need.</i>	<i>Expected materials should be planned early enough so students can be informed prior to class. Such things as workbooks, or materials specific to your lesson should be listed here.</i>	<i>List all book and workbook references here. Much of this can be found in the appropriate LESSON GUIDE CHAPTER. Both instructor and student references can be listed.</i>

TIME	INSTRUCTOR & STUDENT BEHAVIOR	
<i>Listing the running time or clock time for each part of the lesson is extremely important. By doing so, you are ensuring that all material is given in the proper amount of time for adequate coverage. Proper planning and rehearsal will help</i>	<b>SET</b>	
	<i>Include a brief statement of your set. A complete scripted version of a complicated set is not necessary. Remember, the set is an attention getter. It should stir the interest of the student for what is to follow, and provide relevance to student's need to learn the upcoming material.</i>	
	<b>CONCLUDING OBJECTIVE(S)</b>	
	<i>This is the most important part of any lesson plan. It should dictate what is included in every step. Use the key verbs for the desired learning level. Prefix each objective with "The student will be able to .....". In most "real world" lessons there are multiple objectives. "The student will be able to describe ...", and "The student will be able to demonstrate ...", are common combinations.</i>	
	<b>INFORMATIONAL DELIVERY</b> <i>Information Delivery is how you are going to present the information to your class. It is the essential content. Are you going to deliver the information as a lecture, a lecture/discussion, a demonstration, role playing, a group activity, etc. or a combination of several methods?                       Student behavior should also be considered in this step. Your methods should involve interaction among the students, as well as with the instructor. How will this be accomplished?</i>	<i>Ongoing monitoring is a vital part of information delivery. It can be as simple as a "question and answer" session. Immediate feedback will help you make "on the fly" adjustments to information delivery.</i>
<b>STUDENT ACTIVITIES</b> <i>Practice activities should be a part of every lesson. Scenarios, drills, and tasks give students the opportunity to reinforce the information that has been presented. Each new concept or skill should be practiced under the direction of the instructor. This guided practice reduces the chance that all or part of the skill will be practiced incorrectly. Proper planning on behalf of the instructor will ensure that instructional methods are used that generate observable student behavior.                       Independent practice is most appropriate outside of the lesson or formal learning environment. After students are able to demonstrate a skill, they should be encouraged, or required, to practice the skill to gain competency. You should provide ideas for effective independent practice.</i>	<i>Guided practice is the most effective form of ongoing monitoring at this point, however, this is primarily applicable to skill based information. Reassess your lesson plan if your student activities do not incorporate observable behavior.</i>	
<b>STUDENT SUMMARY</b> <i>The student should supply the summary, not the instructor. The instructor should guide the summary by asking specific questions. Use questions that prompt the student for specific information that relates to the concluding objective(s) and the delivered information. Do Not use questions that require only a "yes" or "no" answer. Let the student supply the information. More complicated or multi-phased topics may require summaries during the course of the lesson. Use the summary to tie into practical aspects or skills, and to tie into the next lesson.</i>	<i>An effective student summary enables the instructor to see if the concluding objective(s) have been matched with the lesson.</i>	
<b>MONITORING &amp; EVALUATION</b>		
<i>Not all lessons involve formal evaluations, however ongoing monitoring is always essential and should always involve constructive feedback. If a final evaluation is required, will it be necessary to create the evaluation instrument or can a pre-existing one be used? OEC CPUs are excellent evaluation criteria, if they match your lesson material. If you are going to construct your own evaluation, it will either be "knowledge based" or "performance based". "Knowledge based" evaluations are best suited to paper and pencil type exams, where "performance based" evaluations require skill performance or demonstration. Special care should be taken to assure objectivity in performance based evaluations.</i>		

## SIX-PACK LESSON PLAN

LESSON TITLE: \_\_\_\_\_

INSTRUCTOR MATERIALS	STUDENT MATERIALS	REFERENCES

**TIME**

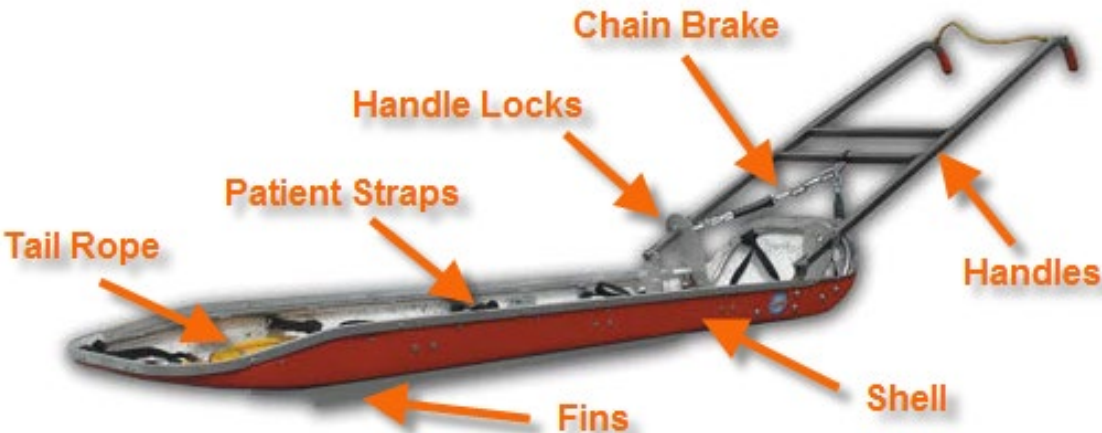
**INSTRUCTOR & STUDENT BEHAVIOR**

TIME	INSTRUCTOR & STUDENT BEHAVIOR
	SET
	CONCLUDING OBJECTIVE(S)
	INFORMATIONAL DELIVERY
	STUDENT ACTIVITIES
	STUDENT SUMMARY
	MONITORING & EVALUATION

# Toboggan Anatomy

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## Cascade Rescue Toboggan

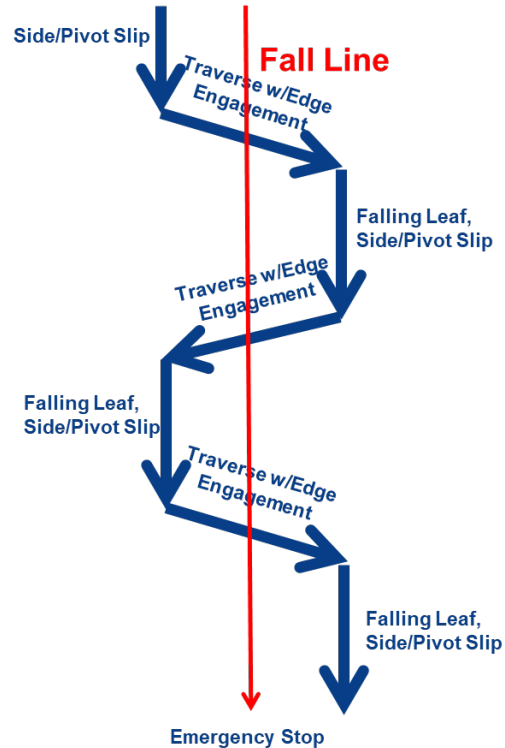


# Typical Obstacle Avoidance Maneuver Course

## Typical Run with a Tail Operator:

1. After patient is ready for transportation, confirm communication with your tail operator for traverses (verbal, head nod or point) and discuss your route selection.
2. Confirm the toboggan is ready. This includes locking the handles, have the chain break in the "ready" position or engaged if applicable and verbally ask if patient is ready. If using a tail rope operator, verbally confirm the tail is ready.
3. Observe surrounding area before you start for your safety and the safety of others. Start your descent confirming the tail is in same position/direction. Side slip for speed control. Be patient if you and your tail operator are in the same sideslip direction at all times.
4. Before you start your traverse, be sure it's safe and communicate with tail with your verbal, head nod or point before you start to traverse. Tail should communicate with a "CLEAR". Do not start the traverse until you hear the "CLEAR".
5. Start the traverse, engaging your ski or snowboard edges.
6. Always observe for possible obstacles as you traverse.
7. After the traverse, start braking and engage with a falling leaf then sideslip into the new fall line.
8. Confirm the tail is lined up in the fall line and stable.
9. Perform a pivot slip and start your new side slip. Look back to confirm your tail has performed the same pivot slip and is side slipping in the same direction.
10. Repeat steps 2-9 as shown in the diagram for 2-3 traverses.
11. Last perform an emergency stop to complete the run. Communication with the tail is key by verbally stating "STOP".

**NOTE:** If you have a backpack or fanny pack, it **MUST** be removed if you are the Lead with the toboggan.





## Appendices

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National OET Program documents page (nsp.org)

Member Resources - Instructor Resources page (nsp.org)

Lesson plan blank - Instructor Development Resource (nsp.org)

Instructor Trainee Mentoring Completion Form (nsp.org instr.dev)

Central Division Shadow Report Form (Central Division nsp.org)

Certification Assessment Form (Instructor Portfolio - Northern Michigan Region)

Toboggan Enhancement Seminar (Central Division website)

Senior Toboggan Score Cards (Central Division website)

NMR Alpine Score Cards (NMR website)