Course Description

This two-credit course is designed to convey the information and skills necessary for safe travel in avalanche prone terrain. Classroom sessions include a series of lectures on weather, snow morphology, hazard evaluation, route selection, travel safety, equipment and rescue techniques. The three-day outing component provides hands-on practice in a variety of avalanche safety skills and techniques including snow pit analysis, hazard estimation, avalanche beacon use, and rescue techniques.

Prerequisites / Corequisites

PEO 285 Wilderness Survival (no exceptions)
PEO 351 Backpacking (or equivalent experience at the discretion of the instructor)
PEO 371 Snowcamping (or equivalent experience at the discretion of the instructor)
Instructor’s consent is also required

Learning Outcomes

The Outdoor Pursuits Program emphasizes safe and responsible participation in outdoor activities. In addition to meeting the objectives of the prerequisite course, upon completion of this course participants should be able to:

1. Describe how weather events (rain, snow, wind, and temperature) influence the stability of the snowpack.
2. Explain how the processes of kinetic, equilibrium, and melt-freeze metamorphism influence the integrity of the snowpack.
3. Explain how terrain factors influence the stability of a snow slope, and identify terrain-related features that increase the avalanche hazard.
4. Conduct a thorough snow pit analysis.
5. Implement a variety of stability tests including shovel shear, tap (compression), Rutschblock and Stuffblock tests.
6. List the minimum clothing and equipment needed for safe and comfortable travel in avalanche terrain.
7. Identify safe travel routes and camping sites, given a topographic map of the area.
8. Describe how to safely cross an avalanche slope, and organize and safely conduct a small group through potential avalanche terrain.
9. Describe what to do when caught in an avalanche.
10. Effectively implement induction line and grid searches using an avalanche beacon.
11. Use probing techniques effectively.
12. Conduct a search and rescue operation for a buried avalanche victim using avalanche probes, beacons, or both.

Evaluative Criteria

This is a P/NP course. Students enrolled for credit will be graded in the following areas. All of the following evaluative criteria must be met for a passing grade:

20% Participation, Attitude & Effort - arriving on time at the meeting point with all of the required items of clothing and equipment, contributing to the group effort, maintaining a positive and supportive attitude, complying with OPP policies regarding using personal and group safety and rescue equipment, being on time for outing events, and following LNT camping and travel techniques specific to the winter environment.

30% Avalanche Safety Skills - active participation in the following outing activities:

1. Beacon work - adequately perform induction and grid searches with an avalanche beacon;
2. Snow pit profile - examine snow layers using the methods demonstrated by the instructors;
4. Rescue response scenarios - with and without avalanche beacons;
5. Equipment use and care - demonstrate correct use and care of avalanche safety equipment;

20% Avalanche scenario worksheet - submitting a fully completed worksheet by the date specified by the instructor. A score of 80% or better is required for a passing grade.

30% Final Examination - 80% or better is required.

To be considered for a passing grade, participants must:
1. Attend and fully participate in ALL required classroom sessions specified on the course schedule.
2. Participate fully in the three-day outing.
3. Submit the worksheet by the deadline specified on the course schedule.
4. Pass the final examination with a score of 80% or higher.
5. Attain a score of 80% or higher on the combined evaluative criteria.

Outing Demands, Requirements, Expectations, and Policies

The outing takes place near Mount Bachelor, on the eastern side of the Cascades. We will snowshoe to a site only a mile or so from the trailhead, to allow as much time as possible for skills practice. The first day will be spent traveling to the activity site, making camp and learning how to use an avalanche beacon. On the second day we will dig snow pits, practice a variety of stability tests and introduce the basics of avalanche rescue. On the last day of the outing, we add to the skill set introduced on Saturday, then pack up camp and travel back to the vehicles in the late morning. See the outing agenda for specifics.

Winter weather in the Oregon Cascades can change rapidly. Below-freezing temperatures with strong winds and blowing snow can quickly change to freezing rain, sleet, sun, or a mixture of everything over the course of the outing. As a result of this mix of possible weather events, snow conditions can vary significantly. Safe travel in winter conditions requires proper clothing and equipment, careful navigation and route selection, and constant self-monitoring your physical condition.

It’s imperative that you understand what is required of you in terms of preparation, fitness, physical comfort, attitude, and conduct. MOST IMPORTANT! Safety is our first concern and must be yours as well. Participate in the outing only if you feel mentally and physically prepared and are willing and able to assume full responsibility for your own safety. Never assume that the leadership team knows everything, always make good decisions, or can solve every problem for you. Your safety depends upon your alertness and good sense. We encourage you to maintain a questioning attitude! If you are unsure of something, ask!

A. Prior to participation in the outing component of the course you are required to:
1. Attend the required classroom sessions.
2. Meet the course fitness requirements by running 2 miles in less than 18 minutes during a pre-outing classroom session (or meet director approved alternative criteria).
3. Read, understand, and sign the Statement of Risk, Assumption of Risk, and Release of Liability document, Health Information form, and Outing Policies document, allowing enough time to thoroughly read each document and bring any questions you may have to the course instructor. It is your responsibility to provide your instructor with information regarding injuries, surgeries, medications, or other special considerations that may affect your participation in this course.
4. Arrive at the outing departure point on time and with all of the required clothing and equipment. Gear and clothing requirements will be detailed during class sessions. To avoid loss of credit, fees, and the experience of the outing, make sure that you understand the requirements and verify the acceptability of required items well in advance of the departure date. The Outdoor Pursuits Program maintains a limited supply of certain items for student use at no charge. You must provide your own equipment unless we happen to have the items you need. Rentals are available locally. You must also provide your own food. Transportation is covered in the cost of the course.

B. As a participant in the outing component of this course, you are expected to:

1. Monitor your health and comfort, eat and drink regularly, and inform your instructor if you become uncomfortable or exceed your limits of personal safety. Your enjoyment of the course will be improved by maintaining a positive attitude and by being mentally prepared for a new set of challenges each day.

2. Know and practice LNT camping and travel techniques specific to the winter environment.

3. Refrain from using illicit drugs and alcohol, carrying firearms, and bringing pets of any kind. Our outing participation policies regarding alcohol, illicit drugs and firearms are “zero tolerance”. Do not anticipate lenience or exceptions. Failure to abide by these policies may result in a permanent grade of “F” or “NP” in the course and/or a formal complaint registered with the Office of The Dean of Students.

4. Wear a seat belt AT ALL TIMES while riding in State vehicles.

5. Remember that you are participating in a tax-supported public program. Help us maintain a good image by being sensible in attire and behavior when near members of the public.

6. Comply with the Program’s policy on use of cell phones, music players and other personal electronic devices. Policies regarding the use of personal electronics will be discussed during class sessions.

C. You will not be allowed to participate in the outing component of this course if you:

1. Miss any required classroom sessions.

2. Fail the fitness test.

3. Arrive at the outing with inadequate equipment or if, in the instructor's opinion, your participation (for whatever reason) could compromise your or the group’s safety.

D. You participate at your own risk. You are strongly encouraged to obtain health insurance prior to participation in the outing component of this course. You may be asked to secure a physician’s statement clearing you to participate in this course.

Policy On Issuing Incompletes

In compliance with University policies, an “I” can be given only when a relatively minor part of a course is not completed. Therefore, if you do not participate in the outing component, an “I” is not an option. If you cannot attend the outing, drop the course as soon as possible.

Refund Policies

If participation is disallowed due to failure to meet the requirements for participation specified above, or because you chose not to participate in the outing for any reason other than a documented family or medical emergency, fees will NOT be refunded. Refunds are subject to the refund schedule established by the Registrar's Office.

Additional Information

1. IMPORTANT! The three-day outing requires that you miss ALL other class sessions scheduled on the Friday of the outing. It is your responsibility to contact your professors/instructors well in advance of the outing to determine if your absence will be permitted. NOTE: Your professors/instructors are under no obligation to release you from your responsibilities in order to participate in this outing. Attending Friday classes and driving on your own to the outing location later in the day is NOT PERMITTED.
2. Course readings, articles and notes are available on the OPP website: http://opp.uoregon.edu/snow/snowcourses.html

3. You must provide your own hand lens. A 10-power hand lens is recommended.

4. Lost or damaged avalanche safety gear must be replaced according the procedures set forth by the course instructor.

5. Evaluation: You are requested to complete student leader evaluations at the last class session, and to complete an online course/instructor evaluation on Duckweb during the evaluation period at the end of the term.

Course Instructor

Dan Crowe, 172 Esslinger Hall; 346-1932; dcrowe@uoregon.edu; Office Hours: TBA

Course Schedule

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>NOTES</th>
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<tbody>
<tr>
<td>WEEK 1</td>
<td>Introduction to Course</td>
<td>Refer to the website for lecture notes</td>
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<td></td>
<td>Gear and Clothing Requirements</td>
<td>Review outing equipment list early!</td>
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<td>WEEK 2</td>
<td>Mountain Weather</td>
<td>online reading: ‘mountain weather’</td>
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<td>WEEK 3</td>
<td>MLK No classes</td>
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<td>WEEK 4</td>
<td>Snow Crystal Growth &amp; Development</td>
<td>online reading: ‘snow crystals’</td>
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<td>Metamorphism of the Snowpack</td>
<td>online reading: ‘snow metamorphism’</td>
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<td>WEEK 5</td>
<td>Metamorphism review (quiz)</td>
<td>review reading on snow metamorphism</td>
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<td>Types of Avalanches</td>
<td>online reading: ‘avalanche dynamics’</td>
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<td>Recognizing Avalanche Terrain</td>
<td>reading: ‘recognizing avalanche terrain’</td>
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<td>WEEK 6</td>
<td>Routefinding &amp; Backcountry Travel</td>
<td>online reading ‘travel in avalanche terrain’</td>
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<td>Safety &amp; Rescue Equipment</td>
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<td>Avalanche Rescue Techniques</td>
<td>online reading ‘avalanche rescue’</td>
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<td>Fitness test bring running gear</td>
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<tr>
<td>WEEK 7</td>
<td>Observing Snow Conditions &amp; Stability Evaluation</td>
<td>online reading: ‘stability evaluation’</td>
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<td>WEEK 8</td>
<td>Outing Prep</td>
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<td>WEEK 9</td>
<td>Final Examination</td>
<td>Bring pen/pencil</td>
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<td></td>
<td>Course &amp; Outing Evaluation</td>
<td>Scenarios assignment due to Dan’s office one week from today</td>
</tr>
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AVALANCHE SAFETY OUTING - FRI-SUN – END OF WEEK 8 - TUMALO MTN.

MEET AT THE GERLINGER ANNEX BREEZEWAY AT 6:30 A.M.