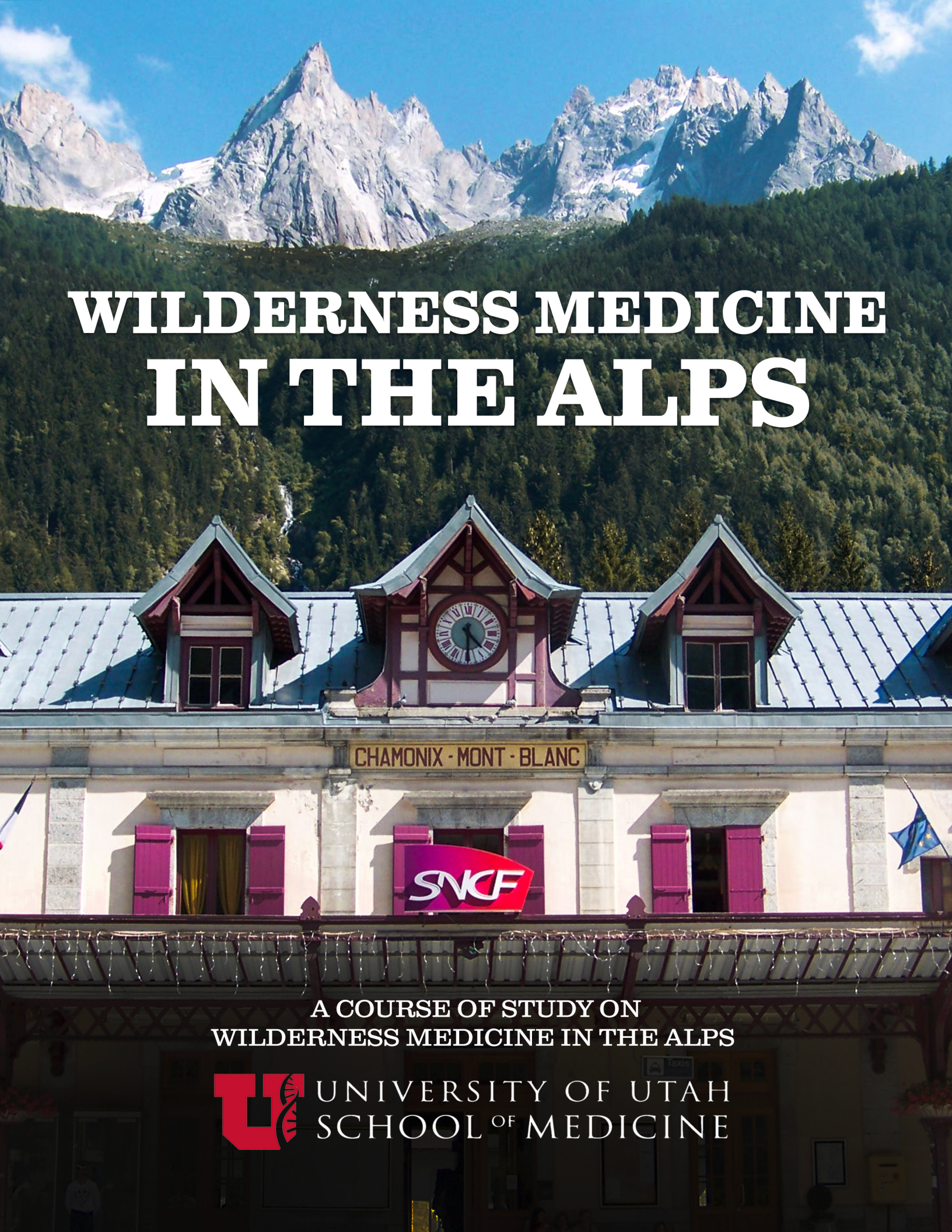

WILDERNESS MEDICINE IN THE ALPS

A COURSE OF STUDY ON
WILDERNESS MEDICINE IN THE ALPS

UNIVERSITY OF UTAH
SCHOOL OF MEDICINE

Wilderness Medicine in the Alps

INDEX

(Click on the subject you want to read about)

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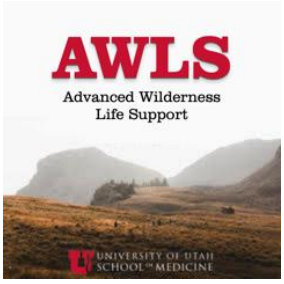
COURSE OVERVIEW

This course is designed to teach wilderness medicine in and around Chamonix-Mt. Blanc in the Alps. The University of Utah's Learning Abroad program is the organization operating the program but the course is sponsored by The University of Utah and the University of Utah School of Medicine. The idea of the program is to teach what happens if you are injured or sick while in the back country. The course covers a variety of topics, including lightning, flash floods, bugs and critters, clothing, diabetes, altitude illness foot problems and more. But we also are going to study geology, geography, glaciers, and the culture of the area

WHAT YOU WILL STUDY

You have two general courses of study for wilderness medicine.



Medical Students (and other medical professionals)
This certification is for those that have had a medical background. The medical students and residents in the course will study this. Other students who have a medical background can take this course. You will need to pass the certification exam by the end of the course.

Undergraduate Students
All students are required to take this course. It is designed to give a broad background in the medicine of backpacking as well as staying safe while you are out there. You will need to pass the certification exam by the end of the course.

HOW TO STUDY

You should begin your studies prior to going to France. Log on to www.wildmedu.org Then you will navigate to the Backpacking Medicine or AWLS site and begin your studies. You can read the chapters from the textbook, listen to the podcasts (on any podcast service) or study from the practice exams. We want you to learn how you leave the best.

LECTURES

There will be lectures given each day for the first week at Instruction Chalet. The lectures won't necessarily provide all the information needed required to pass the exam. To make sure that you're getting the best education we have provided all the recourses on the Wild Med U site. The lectures are

HOUSING

Every student will have a bed to sleep in while in Chamonix-Mt. Blanc. You will sleep in the same bed each night. If you want to change houses, let the program assistants know.

SCHEDULE

Our schedule is not set in stone. Since the weather is unpredictable, we'll likely be making changes to which lectures are given, and when. The daily schedule will be posted on the course webpage at www.chamonixwildmed.org Press the link at the top of the page. One of our priorities is to get everyone out hiking, biking, climbing, and enjoying the wonderful town of Chamonix and the surrounding areas. The first week will contain most of the lectures. Currently we're planning to start lectures in the evening to have the morning and early afternoons free for you to hike and explore. Most of the lectures will be at the Instruction Chalet. However, we will meet a lot outside the Mercure Hotel located at:

Hôtel Mercure Chamonix Centre, 39 Rue des Allobroges, 74400 Chamonix-Mont-Blanc, France

We try to do as much outside as we can. Many lectures of necessity will be at outside in the afternoons or morning. During the second week you'll have one entirely free day to yourselves. The rest of the days will have lectures and other activities.

MERCH

We would nothing more to have all the students wearing a Wilderness Medicine in the Alps shirt or hat. Go to www.wildmedu.org and navigate to the Merch store.

EMERGENCIES

The meeting place for emergencies or getting ready for hikes will be at the Mercure Hotel Conference Center as mentioned above. It is where we will have the lectures. If you have questions, urgencies or emergencies, here is contact information.

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Max Courval – Learning Abroad
max.courval@utah.edu
(801) 581-6369

WHERE TO GO HIKING

The hiking in Chamonix is incredible but can be very strenuous. Do your research beforehand so you don't get into a situation beyond your capabilities. Don't hike alone. Please inform your group leader of your plans. Don't forget sun protection, including sunglasses, sunscreen, lip protection. Reapply sunscreen regularly to prevent sunburns. Take care of your feet as blisters are common. The trams around the valley gain altitude rather quickly, and the weather can be much colder at higher elevations than down on the valley floor, so anticipate this when planning your hikes. Make sure to have enough food and water.

The Tourist Office has trail maps available, or the local bookstores have hiking guides available for purchase. The Office de Haute Montagne (OHM) is another good source for information.
Below are a few websites with more information.

https://www.randos-montblanc.com/en/blog-en/the-5-best-hikes-in-chamonix.html

https://www.chamonix.net/english/summer-activities/hiking

https://www.alltrails.com/france/haute-savoie/chamonix-mont-blanc

CHAMONIX

The local population of Chamonix numbers around 10,000 inhabitants, a figure which swells to nearly ten times that with the influx of tourists, climbers, alpinists, backpackers, students across the four seasons. Whilst the principal town is of the same name, 'Chamonix' is often used in reference to the whole valley, stretching over 28km from Le Fayet to Switzerland. This area encompasses several distinct and charming villages including Servoz, Les Houches, Les Bossons, Les Praz, Les Tines, Argentière, Montroc, and at the top of the valley – Le Tour and Vallorcine.

A BRIEF HISTORY OF THE AREA

In 1741 two Englishmen, Windham and Pococke, discovered the 'Chamouny' valley and its glaciers. Their expedition was met by a rural population of mountain farmers. This community spent their lives raising livestock with a sparse harvest of oats and rye. They feared the mountains and its glaciers were considered evil spirits, which threatened their livelihood. They would regularly invite priests to 'exorcise' them.

As Windham and Pococke explored the valley, they visited the largest glacier in France, the Mer de Glace (Sea of Ice). As their stories and exploits were published in literary journals throughout Europe, their pilgrimage became the "mode" or fashion of the time. Chamonix's fame was on the rise and the upper classes were lining up to be associated with, and discover for themselves, these heralded locations.

Two local men, Paccard and Balmat made the first ever ascent of Mont Blanc in 1786. The first luxury hotel was built in 1816 (The Hotel de l' Union), followed by 'la Couronne', 'le Royal' and many more. Until the end of the 19th century, mountain guides were the main economic power in Chamonix. However, from the beginning of the 20th century with the construction of numerous hotels, hoteliers became the predominant economic force in the valley. n 1860, a carriage road was built joining Geneva to Chamonix via Sallanches. In July 1901, the railway line that passes through the Chamonix valley was inaugurated. This opened the town to winter visitors, many of whom didn't make it past the stunning village of Les Bossons in awe of its Glacier, a real centre of commerce at the time. Between 1908 and 1910 Chamonix took on its present rhythm of winter and summer seasons.

CHAMONIX GEOGRAPHY

Chamonix sits 1,042 Meters (3,400 feet) above sea level. This was where the very first winter Olympics was held in 1924. Chamonix is also one of the oldest ski resorts in France, and as such it is very popular with skiers and mountain enthusiasts. In 1503, the inhabitants held two fairs a year. The valley was often visited by officials and by the bishops of Geneva, however it rarely got visitors for pleasure at that time.

From the 19th century on, Chamonix became a very popular tourist destination and the tourist development at that time was dominated by national and international initiatives rather than local entrepreneurs. At this point the community had become very reliant on tourism for their economy.

THE ALPS AND MT. BLANC

The Alps were born 770 million years ago. An upheaval of the earth's crust raised a mass of schist, gneiss and limestone to form underlying layers of the Alps range.

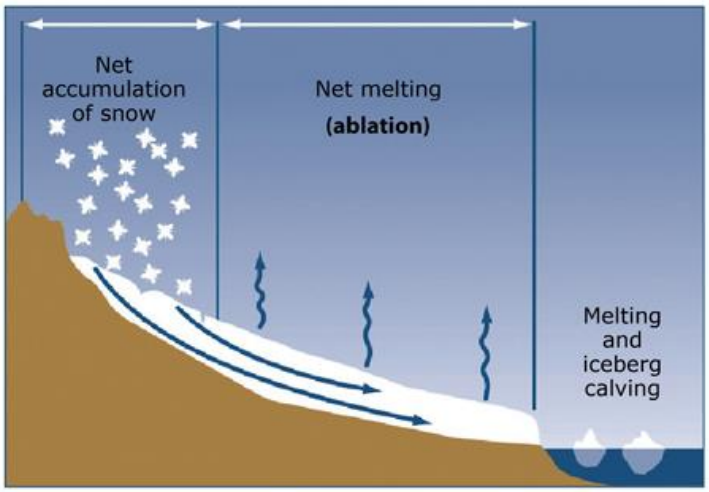
Towards the end of this upheaval, around 300 million years ago, intrusions of granite in the western sector of these ancient mountains brought with them metamorphic rocks which together formed the base of what we know now as the Mont Blanc and Aiguilles Rouges massifs.

Following extensive erosion and inundation by the sea when sedimentary rocks were laid down, this part of the Alps underwent a new phase of elevation as violent movements in the continental plates produced great mountain building creases in the earth's crust. The formation of the Mont Blanc Massif was completed towards the end of the Tertiary era, some 15 million years ago.
Four successive glaciations formed in the Quaternary era (an ice age) and helped to sculpt the present profile of the Mont Blanc range, excavating the Chamonix valley. At one time Chamonix was buried under a large expanse of ice, 1000m deep, which stretched as far as Lyon.
Finally, the climate became milder, and the glaciers retreated to higher altitudes. This is the period we are living in now. Although retreating, the glaciers still play a major role in erosion.

Mer de Glace, (French: “Sea of Ice”) one of the longest glaciers in the Alps, extending for 3.5 miles (5.6 km) on the northern side of Mont Blanc near Chamonix, France. Formed by the confluence of the Géant and Leschaux glaciers below the Tacul massif of Mont Blanc, the glacier once descended to within 0.5 mile (0.8 km) of Les Tines in the Chamonix Valley. It has clearly developed lateral and medial moraines

(accumulations of earth and stone deposited along the sides and in the middle of the glacier), and crescent-shaped flow marks show the more rapid movement of the centre. Many tourists visit the glacier, since it is easily accessible by the cog-wheel railway between Chamonix and Montenvers.

GLACIERS



Glaciers are dynamic, and several elements contribute to glacier formation and growth. Snow falls in the accumulation area, usually the part of the glacier with the highest elevation, adding to the glacier's mass. As the snow slowly accumulates and turns to ice, and the glacier increases in weight, the weight begins to deform the ice, forcing the glacier to flow downhill. Further down the glacier, usually at a lower altitude, is the ablation area, where most of the melting and evaporation occur. Between these two areas a balance is reached, where snowfall equals snowmelt, and the glacier is in equilibrium. Whenever this equilibrium is disturbed, either by increased snowfall or by excessive melting, the glacier either advances or retreats at more than its normal pace.

Several visible features are common to most glaciers. At locations where a glacier flows rapidly, friction creates giant cracks called crevasses, which may make travel across a glacier treacherous. Other common glacial features are moraines, created when the glacier pushes or carries rocky debris as it moves. These long, dark bands of debris are visible on top and along the edges of glaciers. Medial moraines run down the middle of a glacier, lateral moraines along the sides, and terminal moraines are found at the terminus, or snout, of a glacier. Sometimes one glacier flows into another, creating combined wider moraines. Often these linear deposits of rocks are left behind, almost intact, after the ice in a glacier has melted away. Studying these rocky debris remnants, and the sediments that were once beneath the glacier, is the subject of glacial geology and geomorphology.

Glaciers cover approximately 40 square miles (100 square km) of Mont Blanc (whence its name, meaning “white mountain”). Ice streams stretch from the central ice dome down to below 4,900 feet (1,490 metres). The Mer de Glace, the second longest glacier in the Alps,

reached the elevation of 4,100 feet (1,250 metres) in 1930. At the beginning of the 17th century, glaciers advanced to the bottom of the Chamonix Valley, destroying, or burying cultivated land and dwellings. Since that time, the glaciers have periodically advanced and retreated.

Glaciers and climate

The cause of the fluctuation of the world's glacier cover is still not completely understood. Periodic changes in the heat received from the Sun, caused by fluctuations in the Earth's orbit, are known to correlate with major fluctuations of ice sheet advance and retreat on long time scales. Large ice sheets themselves, however, contain several "instability mechanisms" that may have contributed to the larger changes in world climate. One of these mechanisms is due to the very high albedo, or reflectivity of dry snow to solar radiation. No other material of widespread distribution on the Earth even approaches the albedo of snow. Thus, as an ice sheet expands it causes an ever-larger share of the Sun's radiation to be reflected into space, less is absorbed on the Earth, and the world's climate becomes cooler. Another instability mechanism is implied by the fact that the thicker and more extensive an ice sheet is, the more snowfall it will receive in the form of orographic precipitation (precipitation resulting from the higher altitude of its surface and attendant lower temperature). A third instability mechanism has been suggested by studies of the West Antarctic Ice Sheet. Portions of an ice sheet called ice streams may periodically move rapidly outward, perhaps because of the buildup of a thick layer of wet, deformable material under the ice. Although the ultimate causes of ice ages are not known with certainty, scientists agree that the world's ice cover and climate are in a state of delicate balance.

COURSE SYLLABUS

Wilderness Medicine in the Alps Summer 2024
HEDU 2095, Internal Medicine 7984
Program Director: Richard J. Ingebretsen, MD, PhD
Phone: 801 554 2129
email: richard.ingebretsen@m.cc.utah.edu

This course is designed to prepare outdoor enthusiasts and world travelers who have no formal medical training to prevent and treat injuries and medical problems that might occur in the backcountry.

Exam: There is one certification examination during the course. It is to be taken on your own time before the end of the course. A password will be given to you. It will either be the awls certification exam or the BWLS certification exam.

Study Material: You will study using the website www.wildmedul.org Here you can listen to podcasts on the subjects covered in class and you can download the textbook in PDF format. Practice tests are available.

Grading methods and criteria: This is a competency-based course. Students grade will be based on obtaining a level of competency in wilderness medicine. It is our policy that all students can get an A in this course for HEDU 2095 or pass for Internal Medicine 2095. Students will be evaluated in the following manner:

1. Passing the certification examination
2. Actively participating in class activities
3. Attendance at required courses

Course Objectives: At the end of the course the students will be able to:

- Provide basic suggestions for preparedness
- Demonstrate how to pack an effective first aid kit
- Learn proper techniques for water disinfection
- Learn the back-country assessment of an injured or sick patient
- Learn the treatment of dislocations, sprains, strains, and breaks
- Learn how to treat medical problems and prevent infectious disease
- Study and learn the treatment of bites and stings
- Learn the treatment of skin-related injuries including sunburn and poison ivy
- Study the prevention and treatment of lightning-related injuries
- Learn to treat hot and cold-related injuries including dehydration and frostbite
- Understand the treatment of altitude-related illnesses
- Study avalanche prevention and rescue
- Understand the management of head and neck trauma

ADA Statement

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building,

585-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.

Wellness Statement

Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness - www.wellness.utah.edu; 801-581-7776

Faculty and Student Responsibilities All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, spelled out in the Student Handbook. Students have specific rights in the classroom as detailed in Article III of the Code. The Code also specifies proscribed conduct (Article XI) that involves cheating on tests, plagiarism, and/or collusion, as well as fraud, theft, etc. Students should read the Code carefully and know they are responsible for the content. According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, beginning with verbal warnings and progressing to dismissal from class and a failing grade. Students have the right to appeal such action to the Student Behavior Committee. Faculty…must strive in the classroom to maintain a climate conducive to thinking and learning." PPM 8-12.3, B. "Students have a right to support and assistance from the University in maintaining a climate conducive to thinking and learning." PPM 8-10, II. A.

Sexual Misconduct

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status, or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, Student Wellness, 426 SSB, 801-581-7776.