



# UNIVERSITY OF SASKATCHEWAN

## OFF-CAMPUS ACTIVITY SAFETY PLAN

**Geophysics field school**

**Geology 485 and 487**

**April 2025**

**Dr. Igor Morozov**

### Contents

Field School Background.....	2
Field School Safety Hazards.....	2
General hazards.....	2
General Personal Protective Equipment (PPE).....	3
<b>Technique-Specific Hazards.....</b>	<b>3</b>
If an injury occurs.....	4
SITE-SPECIFIC EMERGENCY RESPONSE PLAN.....	4
OFF-CAMPUS ACTIVITY SAFETY PLAN APPROVAL SAMPLE.....	7
ACKNOWLEDGEMENT OF FIELD COURSE AND TRAVEL SAFETY PLAN SAMPLE.....	8
MANAGING HAZARDS AND RISKS.....	10
SASKATCHEWAN HEALTH AND SAFETY LEGISLATION.....	10
DUTIES OF ALL UNIVERSITY OF SASKATCHEWAN EMPLOYEES.....	10

## Field School Background

The Geophysics Field School (Geol. 485 and Geol. 487) will take place between April 29 and May 6<sup>th</sup> of 2024. We will be visiting sites in and around Saskatoon. Transportation to the sites will be provided. If you are bringing a private vehicle, please arrange to park it for the day.

We will be meeting every morning at the loading dock at 8 AM. We will return each day around 4:30 PM. Please remember that we will be going to the field on Saturday and Sunday (May 4 and 5) so the entire field school is 8 days.

Be prepared to be outside all day each day. Check the weather in the morning and dress appropriately and bring necessary additional clothing. Wear sturdy closed-toed shoes. Running shoes or hiking boots are fine. Use appropriate sun protection. The temperature may not be hot, but the UV levels are high in early May (they are similar to what they will be in mid-August).

We will continue to work in light rain. If it starts to rain hard, we may pause and sit in vehicles or go in-doors to wait-out the storm.

Bring a lunch and enough water for you for the day.

We will be walking through tall brush, so it is recommended to wear long pants.

## Field School Safety Hazards

It is important to think about safety hazards, and each day we will spend some time talking about the most serious hazards associated with that day's activities. Some hazards are general, and we will encounter them each day.

### General hazards

- 1) Riding in vehicles, crossing streets, working near roadways – there is a risk of being struck by a vehicle.
  - Vehicles will be driven by faculty and staff, who have completed driving approval through the University of Saskatchewan.
  - Be sure to take care when crossing streets.
  - Wear high-visibility vests and take care when working near roadways.
- 2) Carrying heavy equipment could lead to sprains and muscle strains.
  - Take multiple trips if necessary.
  - Carry heavy objects with more than one person
  - Lift with your legs.
- 3) Walking on uneven ground could lead to twisted or sprained ankles.
  - Watch where you are going and plan your steps carefully.

- Reduce the load that you are carrying if the ground is more hazardous.
- 4) Exposure to ultraviolet radiation – sunburns. The temperature may not be high, but UV levels are high in early May, and we will be out all day, so there is a high potential for sunburn.
  - It is recommended that you wear a sun hat.
  - Apply sunscreen with a high SPF before you come out to the field in the morning, and reapply at least once during the day.
- 5) Temperature related hazards: in early May, it is possible that we could have hot days or freezing days. The temperature may change significantly during the day.
  - Check the weather forecast every morning and dress appropriately. Bring additional clothes as needed.
  - Generally we will be close to vehicles and indoor shelter where we can take refuge if the weather becomes especially inclement.
  - Follow the “30-30 Rule” when thunderstorms are moving into the area. If you see lightning, count the time until you hear thunder. If the time is 30 seconds or less, you should immediately go to a safer place. After the thunderstorm has moved away, wait 30 minutes before leaving the safe location and resuming work. Information about this important rule is available on the following website:

<https://www.canada.ca/en/environment-climate-change/services/lightning/safety/preparedness-fact-sheet.html>

In general, we will pause work if there is a thunderstorm nearby and wait in vehicles or indoors until it passes.

- 6) Insects and arachnids – spring is tick season.
  - It is recommended that you tuck your pants into your socks and spray your ankles with insect repellent.
  - Be sure to check yourself for ticks at the end of each day when you get home.
  - Try to avoid leaving backpacks and jackets on the ground if you can, since ticks will crawl onto these, and you may end up bringing them home.
  - If you find a tick on yourself, follow the guidelines from the Saskatchewan Health Authority:  
<https://www.saskhealthauthority.ca/your-health/conditions-diseases-services/healthline-online/tckbt>
- 7) Public Safety
  - Be mindful of potential hazards to the public. Maintain a clean and organized work site, ensure the safety of the public and pets by keeping them away from high voltage areas, and clean up thoroughly before leaving.

## **General Personal Protective Equipment (PPE)**

We will be supplying high visibility vests and these must be worn at all times.

We will also supply gloves and safety glasses to be used when handling metal electrodes.

## Technique-Specific Hazards

- 1) **High Voltages:** The electrical resistivity method, the induced polarization method and the time-domain electromagnetic methods involve high voltages. In the case of the electrical resistivity method and the induced polarization method, it is necessary to handle electrodes that, when turned-on, have high voltages. The most important thing to mitigate this hazard is clear communication so that everyone knows not to touch current electrodes when they are on. In most cases, the person controlling the electrical transmission will be able to see the current electrodes and should do a visual check each time that no one is touching the current electrodes before turning them on. They will also give a verbal warning that the power is coming on. If the electrode is outside visual range, the person on the current electrode should radio “all clear” and then the operator should give a “power coming on” warning before turning on the power.
  - Additionally, those handling the current electrodes should wear gloves that will increase their resistance as a path to ground.
  - We will use an “infinite” current electrode for some surveys for which a current electrode may be very far from the survey area. We will post one person at that electrode to protect the public and pets.
  - Be careful if handling wire in wet conditions. Make sure that current carrying wires are not laid in puddles.
- 2) **Hammering metal stakes** – In the electrical resistivity and induced polarization methods, metal stakes must be placed in the ground. If the ground is hard, it may be necessary to use a hammer to force these into the ground. Metal flakes can fly off the electrodes when hammering them. For this reason, safety glasses must be worn when hammering metal stakes. When using a hammer, make sure people around you are watching what you are doing, and staying a distance away (out of the “swing zone”). Pay attention when hammering to avoid missing the stake and hitting fingers.
- 3) **Heavy loads** – The Max-Min technique involves carrying heavy equipment for long periods of time. Take extra care when walking and let an instructor know if the load is too uncomfortable. Use the buddy systems to avoid strain or injury.
- 4) **Cables** – In many geophysical techniques, we will be laying cables on the ground. These may present a tripping hazard. Be sure to lay them flat on the ground and watch your step around geophysical equipment.
- 5) Electrical surveys can cause a **fire** if the equipment malfunctions or overheats. Wires may become hot due to poor contact with electrodes or if they become detached and lie in direct contact with the ground.
  - Inform an instructor immediately if a wire feels hot or if you see evidence of a fire.
  - A fire extinguisher is kept in the cab of the department pickup truck.

## Working in populated areas

Some of our work will be within the city of Saskatoon. Members of the public may ask you what you are doing. Please be polite and answer their questions in a friendly manner. Moreover, try to inconvenience members of the public as little as possible, so move out of their way if at all possible.

### If an injury occurs

If an injury occurs, let an instructor know immediately. If the injury is serious, we will decide about whether to transport the injured party in our vehicles to hospital (Royal University Hospital is the closest) or whether to call an ambulance at 911.

### SITE-SPECIFIC EMERGENCY RESPONSE PLAN

A. How to Access First Aid Supplies and Treatment in the Field	
<b>Methods of Communication:</b> In-person and cellular phones	<b>Location of First Aid Kit:</b> Department pickup truck at the back of the driver's seat
<b>Primary number to contact Local Emergency Responders: 9-1-1</b>	
<b>Location of the nearest telephone if outside assistance is required:</b> Personal Cellphone or handheld radios when there is no cellphone communication possible	
B. Emergencies Requiring Evacuation - Fire, Explosion, or Other	
1. In the event of a fire or explosion, if the situation can be readily controlled with available resources and without jeopardizing your health and safety, the public or other site personnel, then take immediate action to do so.	
2. If possible, extinguish or isolate the fire to prevent spreading.	
3. Evacuate the area upwind and away from the fire; always ensure further escape is possible.	
4. Assemble at the Muster Point (at accommodations or any other venue)	
5. Perform headcount to ensure complete evacuation.	
6. Inform Emergency Personnel of any missing team members.	
C. Designated Person(s) to assist in the event of an Emergency:	
<b>Name: Rafael Gonzalez</b>	
<b>Phone number: (306) 880 4033</b>	
<b>Email: <a href="mailto:rafael.g@usask.ca">rafael.g@usask.ca</a></b>	

**Name: Igor Morozov**

**Phone number: (306) 241 9581**

**Email: igor.morozov@usask.ca**

#### **D. On-Site Injury, Serious Reactions, Illness**

In the event of an injury requiring more than minor first aid, or any employee reporting symptom(s) of illness, injury, or exposure to hazardous substances, immediately take the victim to a local hospital.

##### **Royal University Hospital**

103 Hospital Drive

Saskatoon, SK

S7N 0W8

Main Switchboard Phone **(306) 655-1000**

Emergencies **9 - 1 - 1**

##### **MD Ambulance Service**

430 Melville Street

Saskatoon, Saskatchewan

S7J 4M2

Phone **(306) 975-8808**

Fax (306) 664-2112

Emergencies **9 - 1 - 1**

#### **E. Reporting incidents of injury and emergencies to the University's Incident Reporting System:**

1. In the event of an accident or near-miss, inform your supervisor. The Safety Resources Incident Report Form must be completed online as soon as possible at: [www.safetyresources/usask.ca](http://www.safetyresources/usask.ca)
2. If an injury requires further treatment from an outside facility or may cause the employee to miss work, please notify Health and Wellness at 306-966-4580 for instructions on how to complete the appropriate paperwork for WCB.

#### **F. Important Local Emergency Response Contact Numbers**

Local ambulance service	<b>(306) 975-8808</b>
Fire department	<b>9-1-1</b>
Local police service	<b>9-1-1</b>

## FOLLOWING UP ON INJURIES, INCIDENTS AND NEAR MISSES

In the event of an accident or near miss, inform your supervisor. The Safety Resources Incident Report Form must be completed online as soon as possible at:

[www.safetyresources/usask.ca](http://www.safetyresources/usask.ca)

### OFF-CAMPUS ACTIVITY SAFETY PLAN APPROVAL SAMPLE

<b>ACKNOWLEDGEMENTS – TO APPROVE AND AUTHORIZE THE USE OF THIS PLAN</b>			
<p><b>I, the undersigned:</b></p> <p>(a) Have reviewed this Off-Campus Activity Safety plan and authorized its use.</p> <p>(b) Will have and use written work-specific procedures and emergency response procedures for any hazardous activities which are part of the class, including provision of training and appropriate supervision. (Applies to field supervisors)</p> <p>(c) Will ensure all necessary and/or specialized personal protective equipment (PPE) will be made readily available. (Applies to field supervisors)</p>			
Title	Name (printed)	Signature	Date
Department Head	<b>Jim Lee</b>	<b>x</b>	
Instructor	<b>Igor Morozov</b>	<b>X</b>	
Technician	<b>Rafael Gonzalez</b>	<b>x</b>	



**ACKNOWLEDGEMENT OF FIELD COURSE AND TRAVEL SAFETY PLAN SAMPLE**

<b>PARTICIPANT ACKNOWLEDGEMENTS</b>			
<p><b>I, the undersigned, acknowledge that:</b></p> <p>(a) I am fully informed of and accept the risks of this fieldwork, including travel;</p> <p>(b) I will comply with the established safety and emergency response procedures, and I will use all necessary personal protective equipment (PPE) when conducting any hazardous fieldwork activities;</p> <p>(c) I am in a satisfactory state of health to undertake the work;</p> <p>(d) I will ensure those I supervise are aware of this plan and appropriately trained to safely conduct all work activities;</p> <p>(e) I know who I am to discuss any questions, suggestions, or concerns I have; and,</p> <p>(f) I have read and understand this Off-Campus Activity Safety plan, and I acknowledge this by signing below.</p>			
<b>Title</b>	<b>Name (printed)</b>	<b>Signature</b>	<b>Date</b>
Fieldwork Team Member, or Student		x	
Fieldwork Team Member		x	
ADD more rows or pages			

as necessary			

**DRIVING:**



In Saskatchewan, **The Traffic Safety Act (2010)** is the law governing safe driving. Contact Campus Safety with any questions or to review the Traffic Safety Act:

<http://www.usask.ca/campusafety/safety/traffic-safety/index.php>

**• Only approved drivers are authorized to use the vehicles. Attach completed forms to this plan.**

<p><b>When Driving</b></p> <ul style="list-style-type: none"> <li>• On campus</li> <li>• Within the city</li> <li>• On the highway</li> <li>• On gravel roads</li> <li>• On fields and possibly through brush</li> <li>• Muddy conditions in and around fieldwork sites</li> <li>• <b>International Driving</b> (different laws, customs, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Poor weather conditions</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Authorized drivers only (See AUTHORITY TO DRIVE FORM)</b></li> <li>• Do not drive if weather/road conditions are too hazardous</li> <li>• Have a cellular phone in case of emergency</li> <li>• During winter months, additional supplies, preparations and driving techniques are recommended: <a href="http://www.sgi.sk.ca">http://www.sgi.sk.ca</a>, <a href="http://www.mto.gov.on.ca">http://www.mto.gov.on.ca</a>, <a href="http://www.ccohs.ca/oshanswers/safety_haz/icesnow.html">http://www.ccohs.ca/oshanswers/safety_haz/icesnow.html</a></li> </ul>
	<ul style="list-style-type: none"> <li>• Vehicle failure</li> </ul>	<ul style="list-style-type: none"> <li>• Do a visual inspection before driving; <b>SGI</b> gives resources in this area. <a href="http://www.sgi.sk.ca/">http://www.sgi.sk.ca/</a></li> <li>• Safely stop driving if vehicle is failing</li> <li>• Adhere to a regular maintenance schedule</li> </ul>
	<ul style="list-style-type: none"> <li>• Driver fatigue</li> </ul>	<ul style="list-style-type: none"> <li>• Take regular rest breaks before becoming fatigued on long trips</li> </ul>
	<ul style="list-style-type: none"> <li>• Poor road surface</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce speed if the road surface is gravel or in poor condition</li> <li>• University road issues, call FMD Work Control (4496)</li> </ul>
<p><b>Carrying loads in vehicles, truck beds or towing</b></p>	<ul style="list-style-type: none"> <li>• Loads shifting</li> <li>• Problem with the trailer (flat tire, hitch, jackknifing )</li> </ul>	<ul style="list-style-type: none"> <li>• Secure all loads with appropriate straps</li> <li>• Thoroughly inspect all hitches, ensuring proper size ball and hitch, safety chains are properly secured and the hitch mechanism is fully engaged.</li> <li>• Do not stand close to or on a hitch when loads are being put on or taken off a trailer.</li> </ul>
<p><b>Involved in a collision</b></p> <ul style="list-style-type: none"> <li>• Stop to assist others involved in a collision or otherwise requiring assistance</li> </ul>	<ul style="list-style-type: none"> <li>• Impact within, ejection from or crushing by vehicle in collision</li> <li>• Exposure to blood or body fluids from injured passengers</li> <li>• Explosion or fire risk from wrecked vehicles</li> <li>• Sharp glass and metal</li> </ul>	<ul style="list-style-type: none"> <li>• Obey all traffic laws</li> <li>• Wear seatbelts and ensure all passengers are wearing seatbelts properly <a href="http://www.sgi.sk.ca/individuals/safety/seatbelts/index.html">http://www.sgi.sk.ca/individuals/safety/seatbelts/index.html</a></li> <li>• Drive defensively</li> <li>• Vehicle should be equipped with a first aid kit <a href="http://www.fleetsafe.org/">http://www.fleetsafe.org/</a></li> <li>• Call 911 if necessary</li> <li>• Call local police to report an accident</li> <li>• Call your supervisor</li> <li>• Contact your local insurance company (<b>SGI in SK</b>)</li> </ul>
<p><b>Operation of vehicle controls or features and other distractions</b></p>	<ul style="list-style-type: none"> <li>• Distraction leading to collision</li> <li>• Unfamiliarity with vehicle controls, proper operation and features</li> <li>• Spills</li> </ul>	<ul style="list-style-type: none"> <li>• Do not use cellular phones while driving, pull over and stop or use a hands -free device or have a passenger use the phone</li> <li>• Avoid distractions when driving</li> <li>• Read the owner’s manual and be familiar with proper operation of the vehicle</li> </ul>
<p><b>Refuelling vehicle</b></p>	<ul style="list-style-type: none"> <li>• Fire or explosion</li> <li>• Exposure to gasoline fumes</li> </ul>	<ul style="list-style-type: none"> <li>• Use caution when refuelling</li> <li>• Turn off the engine</li> <li>• Do not smoke when refuelling</li> </ul>

		<ul style="list-style-type: none"> <li>• Do not re-enter vehicle when refuelling</li> <li>• Do not use cellular phone</li> </ul>
<b>Changing flat tire</b>	<ul style="list-style-type: none"> <li>• Vehicle crushing operator</li> <li>• High forces, awkward posture</li> <li>• High traffic area</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure you have a good spare tire, jack, and tire iron</li> <li>• Get assistance if not able to safely change tire independently</li> <li>• Be familiar with your vehicle's tire changing equipment and procedures</li> <li>• Move car out of traffic and to level solid ground before attempting to install a spare tire</li> </ul>

## MANAGING HAZARDS AND RISKS

The field environment can be uncontrollable, unpredictable, and quick to change, regardless of the activity. This is why ongoing observation, communication, and problem-solving must be used with training and procedures to maintain a safe environment and to perform activities safely.

This hierarchy of hazard controls will help when deciding on appropriate preventive and protective measures for the hazards and risks you face while working. Each hazard and risk should be managed at the highest possible level on the hierarchy. In most cases, a combination of measures is necessary to effectively control hazards and risks. They are:

1. **Eliminate the Hazard;** if possible, do the task another way to eliminate the hazard.
2. **Substitute for least Hazard;** always use the least hazardous option whenever possible.
3. **Use Engineering Controls;** never circumvent or disable safety devices.
4. **Use Administrative Controls;** schedule tasks appropriately.
5. **Use Personal Protective Equipment;** when all else has been considered and a hazard still exists then use the necessary PPE (e.g. safety glasses, gloves, hearing protection, proper lab and research attire, etc.)

Workplace safety management is a system of continual improvement. Therefore, bringing forward ideas of how to do things better is encouraged.

## SASKATCHEWAN HEALTH AND SAFETY LEGISLATION

Each province has occupational health and safety legislation and regulations. In Saskatchewan, Occupational Health Officers enforce this legislation.

And while the general health and safety requirements are essentially the same from province to province you should have access to the legislation for the province in which you are conducting fieldwork activities.



**Saskatchewan** legislation website: <http://www.lrws.gov.sk.ca/ohs>

In Saskatchewan, every worker has the same three basic rights, or responsibilities, which are:

1. **THE RIGHT TO KNOW**, meaning “know the hazards of the work (university activity) and have been trained to understand how to do the work safely.” Having and knowing this Off-Campus Activity Safety plan is evidence that the University is faithfully fulfilling its legislated obligation to provide information and raise awareness about our mutual responsibility to work safely and prevent injuries.
2. **THE RIGHT TO PARTICIPATE**, meaning “all workers (and students) have the right to bring forward any concerns, suggestions, or questions relating to their work (and scholastic activity) to ensure they are confident to perform in their role before commencing with work (and scholastic activities.”

**3. THE RIGHT TO REFUSE**, meaning “workers (students) MUST refuse to do any work (scholastic activities) they feel is unusually dangerous, for which they have not been appropriately trained to conduct the work (activity).”

These rights should be upheld for all university personnel and students all any fieldwork trip, anywhere in the world. All participants are expected to work in compliance with local health and safety legislation, or follow Saskatchewan legislation, whichever is the higher standard.

### **DUTIES OF ALL UNIVERSITY OF SASKATCHEWAN EMPLOYEES**

The University Workplace Responsibility System (WRS) outlines and details both general and specific OHS responsibilities for all operational groups on campus. The following are the duties and responsibilities for employees and supervisors as outlined in the University of Saskatchewan WRS policy. (Including all supervisors, and regardless of union affiliation)

- Comply with HSE laws, University policies, rules, procedures (Standard Operating Procedures and Job Safety Analyses) and codes of practice for performing work in a safe and healthful manner;
- Take an active role in protecting and promoting occupational health and safety;
- Refrain from activities or omissions that may jeopardize the health and safety of others;
- Take an active role in fulfilling the requirements of applicable health, safety and environmental protection programs with a view to fulfilling the intent of the HSE Policy;<sup>1</sup>
- Report to supervisor any hazards or lapses in the Safety Management System.

### **SUPERVISORS ADDITIONAL DUTIES**

- Provide leadership and direction in protecting and promoting the health and safety of those persons reporting to the supervisor, including employees and students;
- Providing competent supervision and ensuring all persons under their supervision receive applicable safety training<sup>2</sup> and ready access to Standard Operating Procedures (SOPs) and Job Safety Analyses (JSAs);
- Take immediate action to correct any substandard workplace conditions;
- Fulfill the role of supervisor as outlined here, and as outlined in section 17 of the Saskatchewan Occupational Health and Safety Regulations.

Follow this link to reference the entire University of Saskatchewan  
**Workplace Responsibility System** policy document:  
<http://www.usask.ca/ohc/LSC/WRS%20Nov%202004.pdf>

<sup>1</sup> To read the University HSE Policy go to: [http://www.usask.ca/university\\_secretary/policies/health/3\\_01.php](http://www.usask.ca/university_secretary/policies/health/3_01.php)

<sup>2</sup> Section 19 in the SOHS regulations outlines responsibilities for providing employee training.