**Excursion Safety Protocol**



Last Updated: March 24, 2020

**Table of Contents**

Introduction Page 1

Excursion Itinerary/Travel Plan FormPage 2

Excursion Safety Plan Form Page 3

List of Participants Page 4

Excursion Participant Checklist Page 5

Excursion Lead-Organizer Checklist Page 6

Participant Information Form Page 7

Physical & Environmental Hazards Appendix I

Resources Appendix II

# **Introduction**

The safety of all members of the Civil and Environmental Engineering Department is of the utmost importance no matter where our community members may be. As such, the Laboratory, Safety and Chemical Hygiene (LSCH) Committee has developed this Excursion Protocol.

# **Application**

This protocol **applies to:** all excursions in which University students are participating except as noted herein. Examples of excursions are University sponsored trips, competitions, field trips, research trips, and conferences. This protocol does not apply in excursions where the University students in participating in the role of a University employee. An example of an excursion where the protocol does not apply is where a student employee (e.g. paid Research Assistant) is accompanying a researcher to do field work.

# **Required Forms**

Listed below are the **required** Excursion Protocol forms that must be **completed, signed** and **returned** to the CEE, Dow 870 office **at least one-day prior to departure.**

Excursion Itinerary/Travel Plan Form ----------- completed by the Lead-OrganizerPage 2

Excursion Safety Plan Form ----------------------- completed by the Lead-OrganizerPage 3

List of Participants Form ---------------------------- completed by the Lead-OrganizerPage 4

Excursion Participant Checklist ------------------- completed by the Lead-Organizer and ParticipantPage 5

Excursion Organizer Checklist -------------------- completed by the Lead-OrganizerPage 6

# **Participant Information Form**

The participant information form is to be completed by the participant prior to departure and given directly to the lead-organizer. **The information provided on this form must be kept strictly confidential and only viewed by the lead-organizer.**  The lead-organizer must review information prior to excursion and discuss preventive measures to ensure safety of all participants. The lead-organizer must destroy the form upon completion of the excursion.

Participant Information Form ----------------------- completed by the ParticipantPage 7

# **Appendices**

The Appendices provide information on physical and environmental hazards as well as safety resources which may be helpful in planning the excursion.

# **Contact**

If you have questions about the Excursion Protocol or other safety concerns please contact the CEE Safety Committee at [ceesafety-l@mtu.edu](mailto:ceesafety-l@mtu.edu) or visit the CEE Safety webpage <https://www.mtu.edu/cee/safety/forms-policy> to find contact information for the CEE Safety Committee members.

EXCURSION **ITINERARY/TRAVEL PLAN**

CIVIL AND ENVIRONMENTAL ENGINEERING

MICHIGAN TECHNOLOGICAL UNIVERSTIY

Lead-Organizer/Contact:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Office/Cell Phone Number:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Course Number/Research Project:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Destination/Location of Excursion:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

City/State:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Excursion Purpose:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**DEPARTURE**

Date (Departure):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Time (Departure):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Time (Arrival-Destination):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mode of Transportation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Names of Drivers (if applicable):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**RETURN TRIP**

Date (Return to Campus):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Time (Return to Campus):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mode of Transportation:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Names of Drivers (if applicable):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Additional Information (Optional):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lead-Organizer Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Position:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_

Faculty/Staff member Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_

2

EXCURSION **SAFETY PLAN**

CIVIL AND ENVIRONMENTAL ENGINEERING

MICHIGAN TECHNOLOGICAL UNIVERSTIY

**HAZARD ASSESSMENT (Review Appendix I** for additional Hazards**)**

Weather Forecast (Destination):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hazards:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Steps to avoid or minimize identified hazards:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Clothing/Shoes Required (Recommendation):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Nearest Medical Facility (at destination):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**ADDITIONAL CONTACTS**

Contact 1:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Office/Cell Phone Number:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Contact 2:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Office/Cell Phone Number:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lead-Organizer Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3

**LIST OF PARTICIPANTS**

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_25.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_26.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_27.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_28.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_29.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_30.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_31.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_32.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_33.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_34.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_35.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_36.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_37.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_38.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_39.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_40.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

17.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_41.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

18.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_42.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

19.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_43.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

20.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_44.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

21.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_45.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

22.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_46.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

23.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_47.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

24.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_48.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4

EXCURSION **PARTICIPANT** Checklist

CIVIL AND ENVIRONMENTAL ENGINEERING

MICHIGAN TECHNOLOGICAL UNIVERSTIY

The lead-organizer will check the boxes of the line items that apply to the excursion and require the participant's initials. The participants will confirm and initial all lines that have a check-mark in the "Organizer Checks" column. All other lines should be marked **-n/a-** as appropriate. Sign the form and **return** it to CEE Department main office-DOW 870 **prior to excursion departure**. These rules apply to participants participating in an excursion.

|  |  |  |
| --- | --- | --- |
| **Participant**  **Initials-or-**  **n/a** | **Organizer**  **Checks** |  |
|  |  | Carry a picture ID (Michigan Tech ID or Driver’s license) with you at all times. |
|  |  | Complete and/or sign the voluntary **Participant Information form** (with medical and emergency contact information) before departure and return to lead-organizer. The **Participant Information form** can be found in Appendix II. |
|  |  | Carry medical insurance information (recommended). |
|  |  | Wear seat belts when being transported in a vehicle. |
|  |  | Wear or carry appropriate clothing for rain or cold weather, including layered clothing and a waterproof jacket. |
|  |  | Wear appropriate foot attire. A minimum expectation is a sturdy lace-up walking shoe; flip flops and sandals must be approved by the lead-organizer in advance. |
|  |  | Wear appropriate field attire, which may include appropriate shirts, long pants, and a hat as well as sunscreen, and insect repellant. |
|  |  | Bring water and snacks appropriate for the length of the field trip. Participants with special medical dietary needs should plan for delays that may prevent them from getting back to campus or eating at planned time. |
|  |  | Wear life jackets on a boat (including canoes) unless exempted by a Licensed Captain or Crew. |
|  |  | Use caution when entering the water. Wear appropriate closed-toed shoes (sandals and Tevas must be approved in advance by the instructor.), hip or chest waders with a wading belt. Wear a life jacket, use a wading staff and have a throw rope for safety when working in deep or swift moving water. |
|  |  | If conducting laboratory testing in the field, follow the same laboratory rules and regulations for personal protection equipment when using reagents or chemical test kits. |
|  |  | Pay attention to hazards from insect stings and bites and small animals, promptly inspect your body for ticks when returning from the field. |
|  |  | Work in pairs or designated groups. You are encouraged to carry your personal cell phone for emergencies but recognize that cellular service may not always be available. |
|  |  | Remember that you are a representative of the Department of Civil and Environmental Engineering and Michigan Tech and should act with professional decorum at all times. |

*I have read and understood all of the foregoing safety precautions. I understand that there are risks to myself and others. Therefore, I agree to abide by the above rules and I will behave in a responsible manner.*

Participant Name (print)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Participant Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5

EXCURSION **LEAD-ORGANIZER** Checklist

CIVIL AND ENVIRONMENTAL ENGINEERING

MICHIGAN TECHNOLOGICAL UNIVERSTIY

The lead-organizer will confirm and initial all lines that are applicable and mark all other lines -**n/a-** as appropriate for your excursion. Sign the form and **return** it to CEE Department main office-DOW 870 **prior to excursion departure.**

Prior to travel, the lead-organizer must:

|  |  |
| --- | --- |
|  | Review the Participant Requirements with the participants and get all required signatures prior to the date of travel. |
|  | Monitor the weather for inclement conditions and modify the travel or activities as appropriate. |
|  | Confirm a travel plan and expected return time with the CEE Department Chair. |
|  | Collect the signed **Participant Information form** (with medical and emergency contacts) before departure-from all participants. Retain these forms with you (in a secure location) for the duration of the excursion. As needed, privately discuss medical-preventive-measures with individual participants according to their medical conditions. **This information must be kept strictly confidential and not disclosed or discussed with anyone other than the participant.** |
|  | Confirm that the participants have all the safety equipment needed for the activity, as special conditions may exist and the participant should be prepared for those conditions based on the safety plan. |
|  | Confirm the participant group has access to the site. |

If Boats or water craft are being used, the lead-organizer must:

|  |  |
| --- | --- |
|  | When using the RV Agassiz or other vessel, a US Coast Guard-licensed Captain is required for all activities on Lake Superior, Portage Lake, Torch Lake or other large bodies of water. Note: all boats must be owed and **insured** by Michigan Tech or other commercial entity. |
|  | Have prior permission from the CEE Department Chair before departure. |
|  | Require life jackets to be worn unless exempted by a Licensed Captain or Crew. |
|  | Complete Departmental Boater Safety Training prior to any boating outing. |

If vehicles will be used for transporting participants, the lead-organizer must:

|  |  |
| --- | --- |
|  | Remind owners of private vehicles transporting participants that their insurance, not Michigan Tech’s, will be invokes in the event of an accident. |
|  | Confirm that anybody driving a Michigan Tech van has completed Van Driver Training, have read the Michigan Tech Vehicle Use Policy and accident reporting at [www.mtu.edu/facilities/husky-motors/rentals](http://www.mtu.edu/facilities/husky-motors/rentals) information. They should be comfortable driving a large vehicle given weather conditions and time of day. If trips are longer than 100 miles, a second drive is recommended. |
|  | University policy states “Occupancy for 15 passenger vans is limited to 10 occupants, including the driver for travel outside of a 100-mile radius of campus”. |
|  | It is University policy to obey all traffic laws, pull off the road when using a cell phone, and all passengers are to wear seatbelts in a moving vehicle. |
|  | When traveling in multiple vehicles, designate a person in each vehicle to possess key information such as routes, final destination, contact information for others on the trip, and emergency contact information. |

While on the excursion, the lead-organizer must:

|  |  |
| --- | --- |
|  | Carry appropriation communication equipment and ensure participants have necessary phone numbers to contact the lead-organizer if separated from the group. |
|  | Carry the **List of Participants** and the **Participant Information forms**. |
|  | Pay attention to changing weather conditions and modify the activity as appropriate. |

*I have read and understood all of the foregoing safety precautions. I understand that there are risks to myself and others. Therefore, I agree to abide by the above rules and I will behave in a responsible manner.*

Lead-Organizer Name (print):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lead-Organizer Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6

Participant Information

Excursion Protocol

Civil and Environmental Engineering

Michigan Technological University

The information disclosed on this form is voluntary. **The information provided on this form will be kept strictly confidential and will only be viewed by the lead-organizer.**  The lead-organizer will review information prior to excursion and discuss preventive measures to ensure safety of all participants. This form will be destroyed upon completion of the excursion.

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Cell Phone # (if carrying on the excursion):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Allergies or Health Concerns:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Emergency Contact Information

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Relationship:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Contact #\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1) I voluntarily provide this information.

**Participant Signature**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Date**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2) I decline to provide this information.

**Participant Signature**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Date**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7

APPENDIX I

**Physical & Environmental Hazards**

There are many general physical and environmental hazards that exist in nearly every location worldwide. All field researchers, regardless of the work location, should read through this section to learn more about some general physical and environmental hazards.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Hazard | Location | Cause | Symptoms | Prevention |
| Vehicle Accident | Worldwide | -Fatigue  -Impaired driving  -Driver error  -Roadway factors  -Vehicle factors | Various trauma injuries | -Obey traffic laws  -Wear your seatbelt  -Don't drive impaired  -Don't speed or drive recklessly |
| Boating Accident | Worldwide | -Lack of proper training  -Fatigue  -Severe weather  -Alcohol impairment-Dangerous/unfamiliar conditions | Various injuries or death | -Proper training and certification by  appropriate authority  -0on't drive while impaired  -Don't speed or drive recklessly |
| Slips, trips, falls | Worldwide | -Loose, irregular or slippery surface  -Wrong footwear  -Poor lighting  -Obstruction  -Improper (or lack of) use of ladders  -Inattention or distraction | Strains, fractures, bruises, and contusions (head, wrist, elbow, shoulder, back, hip, knee, ankle) | -Proper "housekeeping"  -Wear proper footwear  -Adequate lighting  -Don't carry oversized objects  -Use ladders properly |
| Dehydration | Worldwide | Not enough water intake | -Increased thirst  -Dry mouth  -Flushed face  -Dizziness  -Headache  -Weakness  -Muscle Cramps  -Dark urine | Drink plenty of water (at least 2 quarts per day), more if working strenuously or in a warm climate |
| Impure water | Worldwide | Harmful organisms and pathogens living in water sources | -Gastrointestinal illness  -Flu-like symptoms | -Carry your own water  -Treat water before use  with tablets, purifiers, or  by boiling for> 3 minutes |
| Sunburn | Worldwide | Excessive exposure to the sun | -Irritated skin, pink or red in color | -Wear long sleeved clothing and hat  -Apply SPF that is equal to (or greater than) 30 sun block |
| Heat Exhaustion | Worldwide –Hot Climates | Prolonged physical exertion in a hot environment | -Fatigue  -Excessive thirst  -Heavy sweating  -Cool, clammy skin | -Acclimate to heat gradually  -Drink plenty of  liquids  -Take frequent rest breaks |
| Heat Stroke | Worldwide –Hot Climates | Prolonged physical exertion in a hot environment | -Exhaustion  -Light-headedness  -Bright red warm skin | -Acclimate to heat gradually  -Drink plenty of liquids  -Take frequent rest breaks |
| Frostbite | Worldwide –Cold Climates | Exposure to cold temperatures | -Waxy, whitish numb skin  -Swelling, itching, burning, and deep pain as the skin warms | -Dress in layers  -Wear warm clothing |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Hazard | Location | Cause | Symptoms | Prevention |
| Hypothermia | Worldwide –Cold Climates | Prolonged exposure to cold temperatures | -Shivering  -Numbness  -Slurred speech  -Excessive fatigue | -Dress in layers  -Wear appropriate clothing  -Avoid getting damp from perspiration |
| Carbon Monoxide | Worldwide | Running a vehicle or burning  a fuel stove in an enclosed space | -Severe headaches  -Disorientation  -Agitation  -Lethargy  -Stupor  -Coma | -Keep areas adequately ventilated when burning fuel  -Ensure that vehicle tailpipe is not covered by snow |
| Extreme Weather | Worldwide  -high altitudes | Decreased oxygen intake and increased breathing rate | -Headache  -Nausea  -Weakness | -Allow your body to acclimatize by gaining elevation slowly |
| High Altitude Illness | Worldwide –high altitudes | Decreased oxygen intake and increased breathing rate | -Headache  -Nausea  -Weakness | -Allow your body to acclimatize by gaining elevation slowly |
| Water | Worldwide | -Currents, waves, turbulent, fast moving water  -Drop-offs | -Drowning or near drowning  -Injuries | -Familiarize yourself with water safety  practices and techniques  -Use proper gear including flotation devices  -Protective footwear for wading, marsh, reef, or rocky bottom research |
| Hunting Season | United States | Local hunting seasons and regulations vary | -A hunting accident may result in serious injury or death | -Wear appropriately colored safety  clothing  -Avoid animal like behavior (e.g. hiding in thickets) |
| Plants Poisonous | North America | Exposure to poison ivy, poison oak, or poison sumac plants | -Itchy rash  -Red, swollen skin | -Avoid contact with poisonous plants  -Use pre-exposure lotion  -Wash clothes and skin with soap and water after exposure |

**Animals**

There are many general safety hazards pertaining to animals and other indigenous creatures that exist in nearly every location worldwide. All field researchers, regardless of the work location, should read through this section to learn more about some general guidelines to prevent injury from animals.

General Safety Guidelines

A number of animals and pests may be encountered in fieldwork. Follow these general guidelines to prevent injury or disease:

(a) Wear insect repellent and/or clothing designed to prevent insect bites.

(b) Use netting to keep pests away from food and people.

(c) Keep garbage in rodent-proof containers and stored away from your campsite or work area. Food crumbs and debris

may attract insects and animals.

(d) Thoroughly shake all clothing and bedding before use.

(e) Do not camp or sleep near obvious animal nests or burrows.

(f) Carefully look for pests before placing your hands, feet or body in areas where pests live or hide (wood piles, crevices, etc.).

(g) Avoid contact with sick or dead animals.

(h) Wear clothes made of tightly woven materials, and tuck pants into boots.

(i) Minimize the amount of time you use lights after dark as they may attract pests and animals.

(j) Carry a first aid kit with you on any excursion so you can treat bites or sting and seek medical attention as needed.

(k) Be aware of the appearance and habitat of pests likely to be found, such as those described in the following pages.

Proper Rodent Handling

Steps can be taken to reduce the risk of rodent-borne diseases:

(a) Most importantly, make the area unattractive to rodents.

(b) Cover or repair holes into a building to prevent unwanted rodents.

(c) If camping, keep the area clean of trash and store food carefully to prevent attracting rodents.

(d) Don't camp near rodent burrows.

(e) If rodent feces or dead rodents are discovered, some precautions will help reduce the risk of exposure to rodent-borne

diseases when cleaning the area:

Indoors: Do not stir up dust. Ventilate the area by opening the doors and windows for at least 30 minutes to diffuse potentially infectious aerosolized material. Use cross-ventilation and leave the area during the airing-out period.

Dead Rodent: Using gloves, soak the rodent, droppings and nest with a solution of 1 part bleach to 9 parts water, let soak for at least 5 minutes before picking it up with a plastic bag. Place bag in a second plastic bag.

Rodent Feces: Don't sweep or vacuum rodent droppings. Spray the droppings with 1 part bleach to 9 parts water, let soak for at least 5 minutes then wipe up the droppings. If possible, wet mop the area with the bleach solution.

**Animals:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type | Location | Most Dangerous Species | What to do if encountered | Prevention |
| Mosquitoes | Worldwide – especially wet areas | Refer to Section IV: Diseases |  | -Use insect repellant  -Don't leave standing pools of water  -Use head nets, gloves and/or other clothing designed to prevent insect bites |
| Rodents | Worldwide |  | Don't touch a rodent, dead or alive | -Keep areas clean to avoid attracting rodents  -Store food in sealed containers |
| Flies | Worldwide | Flies can serve as vectors for many diseases | -Remove insects from the area if possible  -Avoid areas with heavy fly infestations | -Use insect repellant  -Use head nets, gloves and/or other lothing designed to prevent insect bites |
| Bears | North America | Black Bear (North America), Grizzly Bear (Alaska, Western Canada, Pacific Northwest), Polar Bear (Arctic) | -Do not run  -Move slowly and speak in a low soft  voice  -If attacked, lay in the fetal position and - protect head  -Play dead | -Keep food out of sleeping areas  -Never approach a bear (or bear cub)  -Wear a bell or other noisemaker  -Stay away from the bear’s food supply |
| Mountain Lions | North, Central and South America |  | -Do not run  -Move slowly and speak in a low soft voice  -Grizzly bear attack, leave your pack on and PLAY DEAD. Lay ﬂat on your stomach with your hands clasped behind your neck. Spread your legs to make it harder for the bear to turn you over.  -Black bear attack, DO NOT PLAY DEAD. Try to escape to a secure place such as a car or building. If escape is not possible, try to ﬁght back using any object available | -Keep food out of sleeping areas  -Never approach a bear (or bear cub)  -Travel in groups  -Make lots of noise by talking or singing  -Stay away from the bear’s food supply  -Use Bear Pepper Spray to deter aggressive, charging or attacking bear |
| Snakes | North America, Mexico | Rattlesnakes, Cottonmouths, Coral Snakes, Moccasins, and Copperheads | -Back away slowly while keeping an eye on the snake  -Do not make fast movements | -Walk in open areas  -Wear heavy boots  -Use a stick to disturb the brush in front of you  -Do not pick up, disturb, or corner a snake  -Back away from a snake  -Avoid locations where snakes maybe |
| Spiders | North America | Black Widow and  Brown Recluse | -If you cannot leave/avoid the area, remove the spider from the area without using hands directly | -Use care around rock piles, logs, bark, gardens, outdoor privies, old buildings  -Wear gloves when working outside  -Shake out clothing and bedding  -Do not pick up or disturb a spider  -Avoid locations where spiders may be such as dark places |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type | Location | Most Dangerous Species | What to do if encountered | Prevention |
| Wolves | North America |  | -Do not run or turn away  -If approached, act  aggressively  -maintain eye contact  -use rocks sticks or pepper spray to discourage wolves  -make a lot of noise  -climb a tree | -keep a clean campsite |
| Moose | North America |  | -back away  -look for something to duck behind  -run | -do not feed them  -avoid moose with young calves and avoid bulls during mating season |
| Scorpions | North America – especially Arizona, Southeast California, Utah and Mexico | All | -If you cannot leave/avoid the area, remove the scorpion from the area without using hands directly | -Shake out clothing and bedding before use  -Avoid lumber piles and old tree stumps  -Wear gloves when working outside  -Do not pick up or disturb a scorpion  -Avoid locations where scorpions may be |
| Bees,  Wasps, etc | North America | Bees, wasps, hornets,  and yellow jackets, Africanized Killer Bees (Southeast United States) | -Do not swat or kill – this may elicit an attack response from other bees/wasps  -Leave the area immediately and quickly  -If being chased move into a closed area if possible  -Cover face | -Bring medication if you have an  allergy (the sting may be fatal)  -Keep scented foods, drinks and meats covered  -Wear shoes outside  -Avoid wearing bright colors, flower prints, and perfume  -Move slowly or stand still (don’t swat at insects) |
| Fleas &  Ticks | North America | Refer to Section IV:  Diseases | -Brush away if not attached  -If attached remove quickly  -Remove from premises | -Wear long clothing with tightly woven  Material and tuck pants into boots or wear clothing designed to prevent insect bites  -Wear insect repellent  -Drag cloth across the campsite to check for fleas/ticks  -Avoid shrubbery  -Stay on widest part of the path |

**Diseases**

There are diseases caused by viruses, bacteria, fungi, and parasites in nearly every location worldwide. This guide is not intended to cover every health risk in every location, but it provides information about some more common diseases in the field. Always learn about specific health risks for the region in which you will conduct your research. General safety rules are avoid drinking water from an impure source, wash and cook your food, and wash your hands with soap and water.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type | Location | Exposure Route | Symptoms | Prevention |
| *E. coli* O157: H7  and Shiga  toxin-producing *E. coli* Gastroenteritis | Worldwide | Foodborne – beef,  unpasteurized milk, unwashed raw vegetables, water contaminated with *Escherichia coli* | -Diarrhea  -Gastrointestinal symptoms | -Always cook food thoroughly  -Wash vegetables before consuming  -Never drink water from an impure source  -Wash hands with soap and water |
| Giardiasis |  | Ingestion of contaminated water, food or soil. | -Severe diarrhea  -Gas  -Abdominal cramps  -Nausea  -Dehydration | -Severe diarrhea  -Gas  -Abdominal cramps  -Nausea  -Dehydration |
| Histo-  plasmosis | Worldwide  (especially Miss. & Ohio River Valleys) | Inhalation of fungus  *Histoplasma capsulatum*  from soil contaminated with bat or bird droppings | -Mild flu-like  -Rarely can be acute pulmonary histoplasmosis | -Use caution when disturbing dry soils or  working near bat or bird droppings  -Personal protective equipment may be needed |
| Influenza  (seasonal) | Worldwide | -Inhalation of influenza virus  -Contact with birds or other animals infected with influenza | -Fever (usually high)  -Headache  -Extreme tiredness  -Dry cough  -Sore throat  -Runny or stuffy nose  -Muscle aches  -Gastrointestinal symptoms | -Annual flu vaccination  -Cover your nose and mouth with a tissue or your elbow when you cough or sneeze  -Wash hands with soap and water frequently  -If you are not near water, use an alcohol-based hand cleaner  -Try not to touch your eyes, nose, or mouth.  -Stay away from people who are sick |
| Leptospirosis | Worldwide | Ingestion, swimming, or other activities in water contaminated with  *Leptospira* | -Flu-like  -Occasionally more serious symptoms | -Use care when working in the water, especially after a flooding event  -Avoid entering the water with open wounds |
| Plague | Worldwide | Flea-borne, from rodents infected with  *Yersinia pestis* to humans  -Direct contact with infected tissues or fluids from sick or dead animals | -Flu-like  -Non-specific  -Swollen and painful lymph nodes (bubonic) | -Use care when working in areas where plague is found  -Use caution when working with wild rodents |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type | Location | Exposure Rate | Symptoms | Prevention |
| Rabies  (Vaccine  Available) | Worldwide | -Infection from bite of an animal (e.g., raccoons, skunks, bats, foxes, coyotes, dogs, cats) infected with the rabies virus | -Fatal (within days of  the onset of symptoms) without immediate treatment  -Early symptoms: fever, headache, malaise  -Later symptoms:  insomnia, anxiety, confusion, paralysis, hallucinations, hypersalivation, difficultly swallowing, fear of water | -Obtain a vaccine if you will be working with high rabies risk species  -Use extreme caution handling these animals  -Vaccinate pets  -Do not handle or feed stray animals or wild mammals |
| Tetanus  (Vaccine  Available) | Worldwide | A wound that is infected with *Clostridium tetani*;  tetanus toxin is produced by the bacteria and attacks nerves | -Early symptoms: lockjaw, stiffness in the neck and abdomen, difficulty swallowing  -Later symptoms: muscle spasms, seizures, nervous  system disorders | -Obtain a vaccine for tetanus every 10 years or immediately following a suspect wound or injury  -Once the disease starts, it must run its course |
| Typhus Fever | Worldwide | Infection from the bite of lice, fleas, ticks, or mites infected with  *Rickettsiae* species | -Headache  -Fever  -Rash | -Use insect repellant  -Wear long sleeve shirts  -Tuck pants into boots |
| Coccidiodo-  Mycosis “Valley Fever” | North and  South America  semiarid regions | *Coccidioides* species  fungus is inhaled when soil is disturbed | -None in most people  -Flu-like (fever,  cough, rash, headache, muscle aches)  -Occasionally, chronic pulmonary infection or widespread disseminated infection | -Wet soil before digging  -If you are immunocompromised, wear a mask when digging  -Stay inside during dust storms in areas where  *Coccidioides* fungus is present |
| St. Louis  Encephalitis | North and South America | -Mosquito-borne -infection from bite of a mosquito infected with St. Louis Encephalitis virus | -Mild - fever and headache  -Severe -headache, high fever, stiff neck, stupor, disorientation, coma, tremors, convulsions, muscle weakness, paralysis, and rarely death | -Use insect repellent  -Many mosquitoes are most active at dusk and dawn, consider staying indoors during these hours  -Wear long sleeves and pants  -Avoid areas of standing water where mosquitoes breed |
| Lyme Disease | United States, Europe, and Asia | Infection through the bite of a tick infected with  *Borrelia burgdorferi*  *Borrelia afzelii* or *Borrelia garinii* | -Spreading rash  (“bullseye”)  -Early symptoms: flu-like  -Later symptoms: arthritis and neurologic problems | -Avoid tick-infested areas  -Wear long sleeves and pants  -Use insect repellant  -Check clothing and hair for ticks and remove any ticks |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type | Location | Exposure Route | Symptoms | Prevention |
| Rocky  Mountain  Spotted Fever | United  States, southern Canada, Mexico, Central and South America | Infection through the bite of  an infected tick  -*Rickettsia rickettsii* | -Sudden onset of  fever  -Headache  -Muscle pain  -Spotty rash | -Avoid tick-infested areas  -Wear long pants, shirts  -Use a repellant  -Check clothing and hair for ticks and remove any ticks |
| Hantavirus Pulmonary Syndrome (HPS) – Sin Nombre Virus | North  America | Inhalation of dust or aerosols from the infected rodent’s feces, urine, or saliva  -Vector: Deer mouse  (*peromyscus maniculatus*) | -(Early, 1-5 weeks) fatigue, fever, aches, chills, headaches,  dizziness, sometimes abdominal problems  -(Late, 4-10 days after early) coughing, shortness of breath | -Avoid contact with rodents, especially their feces  -See section on dealing with rodent-infested areas |
| Arenavirus  (White Water  Arroyo) | North  America | Inhalation of dust or  aerosols from a rodent’s feces, urine, or saliva  -Vector: Woodrats and other *Neotoma* species | -Fever  -Headache  -Muscle aches  -Severe respiratory distress (occasionally) | -Avoid contact with rodents, especially their feces  -See section on dealing with rodent-infested areas |
| West Nile Virus | North  America | -Mosquito-borne  –Infection from the bite of a mosquito infected with West Nile Virus  -Handling infected birds | -None in most people  -Mild - fever, headache, body aches, nausea, vomiting, and sometimes swollen glands or a rash-Severe - high fever, stiff neck, stupor, muscle weakness, coma, disorientation, tremors, convulsions, vision loss, numbness, paralysis | -Use insect repellent  -Many mosquitoes are most active at dusk and dawn, consider staying indoors during these hours  -Wear long sleeves and pants  -Avoid areas of standing water where mosquitoes breed  -Don’t handle dead birds with your bare hands |

APPENDIX II**Resources**

There are many resources available that may provide more in-depth information regarding your research environment. Please use the references in this section for further information on many of the topics discussed.

Environmental Health and Safety:

906-487-2118

http://www.mtu.edu/ehs/

Public Safety and Police Services:

906-487-2216 or 911

<http://www.mtu.edu/publicsafety/>

First Aid/CPR Training: First Aid and CPR training are available from a number of locations

General: The Centers for Disease Control and Prevention (CDC) offers a website that describes many topics related to travel, both domestic and international: <http://wwwn.cdc.gov/travel/default.aspx>

Weather: More information on extreme weather and how to protect yourself can be found from the National Weather Service: <http://weather.gov/safety.html>

Impure Water: The CDC provides information on waterborne diseases: <http://www.cdc.gov/healthywater/>

Diseases: The CDC offers more detailed information about many diseases related to travel on their website: <http://wwwn.cdc.gov/travel/contentDiseases.aspx>

General Outdoor Safety: For more information on outdoor and recreational safety.

800-832-1355 <http://www.fs.fed.us/safety/outdoor/>

Hantavirus: The CDC has detailed information about hantavirus.

[http://www.cdc.gov/ncidod/diseases/hanta/hps/noframes/genera linfoindex.htm](http://www.cdc.gov/ncidod/diseases/hanta/hps/noframes/generalinfoindex.htm)

Lyme Disease: The American Lyme Disease Foundation provides information about the disease. http://www.aldf.com