UCSC Earth and Ocean Sciences Research Safety Plan

Overview

This document explicitly states expectations for providing a safe and inclusive environment for research in laboratory and field settings. We provide safety plans for three distinct areas: (1) Research in the Field, (2) Teaching in the Field, and (3) Research in the Lab. These safety plans are relevant to all members of the Earth and Planetary Sciences and Ocean Sciences Departments at the University of California - Santa Cruz and should be read prior to conducting field and lab work on behalf of the department.

UCSC Earth and Ocean Sciences Field Research Safety Plan

Fieldwork is defined as research done outside of the home (or affiliate) institution's physical location to gain practical experience and knowledge. Locations where fieldwork is done can have a wide variety of challenges including (but not limited to): natural hazards; difficult access to food and shelter; unfamiliar cultural norms or languages; distance from personal support networks; long, exhausting days/work hours; enhanced power imbalances; and societal hostilities to real or perceived differences.

Environmental Health and Safety Field Safety Plan

Prior to conducting fieldwork, all research groups must complete an EHS Field Safety Plan and submit it to Environmental Health and Safety and the appropriate department Chair.

https://ehs.ucsc.edu/programs/research-safety/field-research/

Domestic field projects must have a Field Safety Plan completed at least 8 weeks prior to field activities. International field projects must have a Field Safety Plan completed at least 3 months prior to departure, to allow time for all individuals to receive vaccinations and health screenings as needed.

A separate Field Safety Plan must be completed for each distinct field locality and must be updated annually, for repeated fieldwork.

There is a UC Field Research Safety office with further information and many resources.

https://www.ucop.edu/safety-and-loss-prevention/environmental/program-resources/field-research-safety/index.html

https://training.ucr.edu/fieldworkleadership

Code of Conduct

Regardless of whether individuals are on the physical premises, if they are conducting activities within the bounds of their department affiliation, they are expected to adhere to both the UCSC Principles of Community and the departmental Principles of Community. (see links below)

- UCSC principles of community website

- EPS department principles of community website

Process for Reporting

- Post Assessment: include post-fieldwork/class assessment where students have opportunity to review instructor/TA/(classmate?) conduct.

- **Ombudsperson:** Due to the isolating nature of fieldwork, all instructors engaging in field trips should strongly consider inviting another instructor or graduate student that is not a Teaching Assistant for the course. This ombudsperson can be a point of contact for students that could otherwise feel there is no mode for recourse if they are subjected to uncomfortable/inappropriate situations by the course instructor/teaching assistants.

- Reporting Structure: Create an infrastructure to report problems up a chain that is clear and well communicated. See reporting guidelines and resources (Session 2 deliverable document)

- Suggestion: Ask administration what the process is for reporting or sanctioning students in the field rapidly when they are making situations unsafe or uncomfortable for other students.

Risk Assessment

Lab groups should discuss anticipated challenges prior to fieldwork to determine appropriate preparations. This should include discussions such as:

- Am I/my colleagues physically and emotionally safe in this environment?
- Have I completed the EHS Field Safety Plan?
- Do we have the collective appropriate training to deal with hazards and hostile situations in the field?
- Do I know the appropriate reporting procedures (as listed above)?
- Do I/my colleagues have concerns that have not yet been addressed?

UCSC Earth and Ocean Sciences Field Teaching Safety Plan

Preparing for the Field - This guide will include and be shared with students before Field Trip. Separate from trip planning we recommend that departments continue hosting yearly in-person microaggression, implicit bias, and bystander intervention training via the UCSC DEI office, and

require all field teachers/TA's/employees to complete in-person microaggression, implicit bias, and bystander intervention trainings.

1. Site preparation
    a. Review location-specific hazards
        i. Physical hazards: what physical aspects of the environment could result in harm to group members?
            1. Ex: Hazardous temperatures, difficult to navigate (for different ability levels and people with different ways of moving around), wild animals, etc.
        ii. Social hazards: what social, economic, legal, etc. aspects of the field sites could harm group members?
            1. Ex: Site of active conflict, area known for racism or other discrimination against specific groups, politicalization of local population, sexual harrassment
    b. Risk assessment: UCSC Field Safety Website
        i. Consider training in Wilderness Emergency Medicine and Epinephrine Administration (contact EHS or UC Field Safety for further information, including possible funding resources for this training).
    c. UCSC Preferred Practices for Safe Teaching and Research in the Field
    d. Collect information on student backgrounds, demographics, identities
        i. Recommend working with CITL (or DEI) to review ability to understand, appreciate, and interact with people with identities different from the instructor's
        ii. When necessary, privately discuss concerns with individual students ahead of time in the presence of a third-party professional trained in inclusive teaching practices
2. Equipment preparation
    a. Ensure all members have proper and working gear and know how to use it
        i. Provide students with complete equipment list including clothing
            1. Keep in mind clothing worn for all identities and body types (i.e. gender identities, disabilities, religious affiliations, etc.)
            2. Keep in mind the expense of name brand gear for students
        ii. Provide alternative options and assistance (finding and paying) for students needing gear
            1. OPERS gear rental
            2. REI gear rental
    b. Consider different equipment recommendations for students with different identities and reviewing specific requirements. Including but not limited to:
        i. Disability accommodation
            1. Examples include outdoor wheelchairs, tactile maps, sign-language interpreters, etc. (Chiarella and Vurro, 2020)
        ii. Hygiene products

1. Examples include black hair care products, feminine hygiene products, alternate feeding/waste products etc.

iii. Personal protection
1. Examples include sunscreen, bug spray, etc. Consider recommending pepper spray for all participants if appropriate (i.e. socially hazardous sites where where individuals may be alone and/or in vulnerable situations, or encounters with wildlife)

iv. Medical equipment
1. Medications, insulin and diabetic equipment, EpiPens, Narcan nasal spray (may be available through the Student Health Center and Pharmacy), etc.

3. Inclusive space preparation
   a. Reminder that all individuals acting within their roles as members of the EPS community must abide by the EPS department principles of community.
   b. Identify field safe-spaces
      i. Examples include secure private spaces for trans bodies, spaces for prayer, spaces where hijabs can be removed, etc.
   c. Similarly, if camping or staying somewhere overnight, ensure students have appropriate rooming accommodations and pairings where they are comfortable
   d. Implement 10 steps to protect BIPOC scholars in the field (adapted below) and section 4.4 from Marin-Spiotta et al. (2020)
      i. Mandatory racial risk assessment
      ii. Anidiscrimination training
      iii. Before traveling, faculty should lead collaborative discussions to identify discriminatory or race-related incidents with team members that could occur in the field and then *encourage bystander interventions*.
      iv. Before field trips, team leaders should *reach out* to local authorities, businesses, and community leaders, especially in white communities, to provide early notice of the diverse nature of their teams.
      v. Institutions should *identify and share cultural norms*, expectations, jargon, policies, and rules practiced in field communities that may be unfamiliar to the fieldwork team.
      vi. Allyship training to educate and empower non-BIPOC members of the team.
      vii. Team leaders should interrogate and *identify blind spots* in team members from the majority racial group.
      viii. Team leaders should be present in the field to *introduce all of their team members* to the host community and other stakeholders.
      ix. Team leaders should *document hostile encounters* that team members face during field visits regardless of severity.
      x. Team leaders should *address incidents of discrimination when they happen*.
4. Safety/Emergency preparation

a. Team leader should have appropriate training and resources for inclusive leadership and risk management in the field.
b. Ensure all participants have access to readable maps and location information, and properly understand the information including how to get to and from the field site.
c. Designate group external points of contact (EPOCs)
    i. Designate two group EPOCs to check-in with when entering and exiting the field site (repeated below)
    ii. Have all members provide emergency contact information to field trip leaders and the group EPOCs
d. Have students designate individual EPOCs
    i. Have all participants self-designate an individual EPOC to check in with when entering and exiting the field site
    ii. Have participants share trip information with their personal EPOCs, including:
        1. Trip purpose
        2. Site location
        3. Trip duration
        4. Names of trip leader and group EPOCs
        5. Number of participants
e. Discuss logistics such as where emergency medical kits are stored, the location of the nearest hospital
f. Plan field site evacuation routes in case of an emergency, review plan with students prior to trip
g. If possible, identify and reach out to professionals local to the field site (rangers, outdoor schools, university faculty and administrators), who may be able to provide more immediate help in an emergency.

5. Interpersonal Safety
    a. Designate two people (likely a professor and a TA) as Points of Contact when reporting an incident during a field class (this is separate from the external points of contact discussed in the Safety/Emergency preparation section)
    b. Review and discuss the EPS department principles of community with all participants prior to every excursion
    c. Review and discuss repercussions for not adhering to Code of Conduct
    d. Provide and familiarize group members with resources for reporting issues and seeking help. See reporting guidelines and resources
        i. Ensure all participants have safe and secure opportunities to check-in with external people and report code of conduct violations

UCSC Earth and Ocean Sciences Lab Safety Plan

There are two facets of safety research groups on campus should address: Laboratory Safety and Interpersonal Safety. Each lab should abide by the EPS department principles of community.

1. Laboratory safety manual: https://ehs.ucsc.edu/lab-safety-manual/index.html
    a. Safety Personnel/point of contact for each lab
    b. Laboratory safety training is mandatory at the time of initial work in the lab and when new hazards or processes are introduced
    c. Yearly/Bi-yearly training for specific things (PPE, how to dispose of hazardous materials, etc).
    d. Building safety
2. Code of Conduct
    a. Review and discuss the EPS department principles of community with all participants
    b. Recommend developing Community Guidelines for each lab group and review every year
        i. Explicit discussions of expectations of work ethic
        ii. Explicit discussions of boundaries others should respect (eg. addition of personal items to group space, how/when/where lab-relevant discussions should be conducted [ensuring all parties are involved])
3. Interpersonal safety
    a. Discuss Code of Conduct on a yearly basis
    b. Process for reporting hate/bias or misconduct
        i. Same as above. See reporting guidelines and resources.
        ii. Recommend having an ombudsperson external to the department
    c. Ten Rules of an Antiracist Lab (below)

Ten Rules of an Antiracist Lab

All labs should be discussing and implementing the following guidelines for building an antiracist lab, adopted from Chaudhary and Berhe (2020).

1. Lead informed discussions about antiracism in your lab regularly
2. Address racism in your lab and field safety guidelines
3. Publish papers and write grants with Black Indigenous People of Color (BIPOC) colleagues
4. Evaluate your lab's mentoring practices
5. Amplify voices of BIPOC scientists in your field
6. Support BIPOC in their efforts to organize
7. Intentionally recruit BIPOC students and staff
8. Adopt a dynamic research agenda
9. Advocate for racially diverse leadership in science
10. Hold the powerful accountable and don't expect gratitude