CHE New Graduate Students
Orientation – Safety Talk

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General Safety Information

Know What To Do In Emergency Events

https://www.youtube.com/watch?v=4pTtmPSL4-I
Emergency Response Protocol

EMERGENCY EVACUATION PLAN

LIVERMORE CENTER - FIRST FLOOR

MAP LEGEND
- YOU ARE HERE
- Emergency Exit
- Emergency Exit Routes
- Emergency Shelter Areas
- Automated External Defibrillator
- Exit Stairs

DESIGNATED OUTDOOR SAFE MEET AREAS (DOSMAs)

In Case of Fire DO NOT Use Elevators Use Stairways
Tornado Shelter Area:

**Primary:**
basement

**Secondary:**
first floor interior hallway
Embrace Safety

Why?

- Your own safety.
- Your future employer looks for candidate with safe mindset.

Responsibilities:

- Understand that following procedure and performing safe practice is a JOB REQUIREMENT.
- Engineer’s obligation.

CHE graduate student handbook:
VII. Ph.D. Proposal Exam
The report should also include an appendix (not counted in the 10-15 page limit) on safety assessment. The safety assessment should include a risk assessment of the project, selection of proper PPE, engineering control (e.g. fume hood, biosafety hood etc.), spill response procedure, waste disposal procedure, special safety signs and protocols.
Iron Ring: worn by many Canadian/American-trained engineers, symbol and reminder of the obligations and ethics associated with engineering profession.
General Safety Rules

- Always wear appropriate personal protective equipment (PPE) before entering the working area. Use additional protection equipment while required with specific equipment.

- Complete training required prior to the start of the work.

- All injuries, accidents, near misses, and chemical spills must be reported to the supervisor(s) and the departmental safety officer(s) immediately.

- No food, drink, gum, candy, tobacco, cosmetics, and medications are allowed in the laboratories.

- Keep personal belongings (e.g. backpacks) outside of lab space.

- Good housekeeping must be practiced in the laboratories.

- Never allow loose or dangling hair, clothing or jewelry.

- Never wear open-toed shoes and shorts in labs. No skin is exposed from waist down.

- Use buddy-system all the time including after-hours.

- Shorts, skirts, sandals, open-toed, shoes with holes, cloth/canvas uppers are NOT permissible. **Must be liquid repellent.**
Personal Protective Equipment (PPE)

- Personal Protective Equipment (PPE): Lab Coat, Safety Eye Protection, Gloves etc.
- Additional PPE may be required by specific research project or instrument.
- Consult SDSs (safety data sheets), Standard Operating Procedures (SOPs), lab mates, PI.

…and a SMILE!!!!!!!!!!
Appropriate Attire

- Confine long hair. No loose/dangling clothing or jewelry.
- Scarves, dangling necklaces, bracelets or earrings, unbuttoned sleeves or dangling belts are not to be worn.

Michele Dufault
2011 Yale
Video of Lab Behavior

https://www.youtube.com/watch?v=e7VkluiT1kU
### Safety Training Requirement

<table>
<thead>
<tr>
<th>Type of Training</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>Safety Awareness (HR cornerstone)</td>
<td>Biennial</td>
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<tr>
<td>Laboratory safety Training</td>
<td>Biennial</td>
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Additional trainings may be required, such as Biological Safety, Blood borne Pathogen, Laser Safety, Radiation Safety etc. Please discuss with your supervisor about what safety training are required for your job duty.

**Departmental safety seminar, 9/10/2021**
Enroll in Tech Alert

TTU Police Department (TTPD)
Medical/Fire/Police/Bomb Threat Emergency 911
Non-Emergency  806.742.3931

TTU Environmental Health and Safety
Daytime Emergencies (M-F, 8:00am - 5:00pm) 806.742.3876
Other times 806.742.3328

Physical Plant Emergency Maintenance
806.742.3328

SafeRide (10pm – 2:45 am) Thursday, Friday, and Saturday
806.742.RIDE (7433), TTU student ID
Safety Resources

- TTU Environment Health & Safety (EHS) website
  http://www.depts.ttu.edu/ehs/Web/
- WCOE Safety website
  http://www.depts.ttu.edu/coe/safety/
- Safety Training Website: https://appserv.itts.ttu.edu/VividShim/
- TTU Lab Safety Manual (April 2020 version)
- Safety Plan on each department’s website
- Lab Safety Plan, Standard Operating Procedure (SOPs), Safety Data Sheet (SDS)
- Safety Carry Card/ Safety Brochure
A waste bottle ruptured, spilled about 3 liters of hazardous liquid, and spread broken glass pieces. The waste label attached to the bottle was incomplete, so the actual contents were unknown. The waste bottle was overfilled with inadequate headspace which may lead to over-pressurization.

Some guidelines for handling chemical waste are as follows:

1. Chemical waste must be disposed of when it reaches ¼ full to avoid over-pressurization.
2. Never mix incompatible chemicals in a waste bottle.
3. Complete the information required on the waste label. Each chemical added to the container must be written with its full chemical name instead of abbreviation or formula.
4. Waste container stored on the floor shall be placed in secondary containment to collect spills.
5. Waste containers must be closed when waste is not actively being added or removed from the container.
6. Contact EHS for disposal and handling instructions of high hazard waste (e.g. dried picric acid, explosives, energetic materials, toxic gases, etc.)

Do You Know?

If glassware is accidentally dropped on the lab floor, do you know how to handle the glass waste?

The following are guidelines and TTU safety rules regarding the broken glass:

- Glass waste must be segregated from other solid municipal waste and disposed of in a sturdy, puncture-resistant, closable box labeled as broken glass. Add a plastic bag liner inside the box to prevent small glass pieces from escaping.
- Glass must be decontaminated (e.g. triple rinse, disinfection.
Comments/Questions