Purdue University
Lyles School of Civil Engineering
Safety
Faculty, staff, students are required to comply with environmental, health, safety and preparedness laws and regulations issued by federal, state and local agencies

- Occupational Safety and Health Administration
- Nuclear Regulatory Commission
- Environmental Protection Agency
- Department of Homeland Security
- Department of Transportation
- Indiana Department of Environmental Management
- Indiana State Department of Health

Faculty, staff and students also must comply with related university policies, procedures and instructions.
To be informed about known health and safety hazards in your area

To be trained to use proper safety procedures

To inform your supervisor or safety representative about accidents or hazardous situations in your work area without fear of repercussions
Responsibilities

- Use the available information to stay informed about health and safety hazards in your area
- Attend the training provided
- Use proper safety procedures
Safety Training

- Safety training varies for each lab
  - Environmental, Geotechnical, Materials, Hydraulics
  - Structures: Bowen has its own safety program
  - Transportation: Anyone funded by Joint Transportation Research Program (JTRP) must complete the JTRP safety training
- Each lab has its own hazards and safety protocol
- You must complete online Right-to-Know training and sign an HCP-8 for some labs in which you work
Emergency

- Campus wide emergency
  - http://www.purdue.edu

- Weather emergency
  - http://news.uns.purdue.edu/weather.html

- Local news

- Radio: WBAA 920 AM, 101.3 FM
Emergency – Alertus System

3. All Hazards Awareness Training is available in a classroom setting, online, or through the department. See http://www.purdue.edu/ehps/emergency_preparedness/for more information.

Tips:
If the beacon fails to work or is vandalized, please report the issue to the appropriate email: ehps@purdue.edu

Purdue University
Emergency Door Locks

To lock the door, turn lock to the down position.
Campus Emergency Phones
On Campus Emergency

- Cell phones
  - Sign up for emergency text message for your cell phone
  - [http://www.purdue.edu/securepurdue](http://www.purdue.edu/securepurdue)
In case of fire or other emergency situations you need to know how to safely exit the building.

If you are a professor or teaching assistant, it is your responsibility to ensure that your students are safely evacuated.

Emergency procedure for chemical spill or localized safety issue:
- Leave the area, contact your supervisor, call 911
Emergency Evacuation

- Call 911
- Leave the building
  - First stop experiments, as warranted (heat, water, cooling, or potentially dangerous if not attended)
- Leave the office doors open
- Exit using the stairs (not the elevator!)
- Go to the emergency assembly area (EAA)
  - Between Pharmacy and HAMP (or atrium of Armstrong in inclement weather)
Emergency Evacuation

Emergency Procedures
For Chemical Spills and Releases

An accidental release of hazardous chemicals is always a possibility in a Purdue building, especially in buildings with chemical laboratories. Chemical spills and releases can be identified by unusual chemical odors, smoke, visible clouds of gas, unknown liquids on the floor, fire or explosions.

If the release of chemicals into the building environment is suspected, employees are expected to follow the procedures outlined below:

1. Immediately leave the area; do not touch anything suspected of being contaminated. If clothing or skin is contaminated, remove the affected clothing and shower in the nearest emergency shower.

2. Contact your supervisor. If the supervisor cannot be contacted, dial 911 and report the incident to emergency personnel. If the incident is thought to be a threat to the health of building occupants (e.g. fire, toxic gas), pull the fire alarm to evacuate the building.

3. Be prepared to tell your supervisor or emergency personnel the following information:
   - Location of the incident (building, floor & room number).
   - What was observed.
   - Names of persons involved (if any).
Emergency Assembly Areas

Area in Front of Pharmacy: Emergency Assembly Area (in case of fire, etc.)

Atrium of Armstrong: Emergency Assembly Area in inclement weather

Basement of Civil: Shelter in Place Area (in case of tornado, civil disturbance, etc.)

Map of Emergency Assembly Areas for Civil Engineering
Weather Emergency

- Tornado
  - There are 9 tornado sirens on campus
  - If you hear the siren, go to a designated safe location
    - The basement of HAMP Engineering is a designated safe location
Evacuation plans for all rooms are available on-line
General Lab Protocol

- Be aware of lab hazards, do not use equipment or chemicals unless you have been trained
  - Equipment training
  - Chemical training
  - Refer to hazard assessment for specific PPE
- Wear appropriate clothing
  - Long pants, shoes, hair tied back, etc.
- Wear appropriate personal protection equipment (PPE) for the task you are doing
  - Goggles, gloves, hearing protection, respiratory protection, etc.
- No eating or drinking in labs
Potential Hazards

- Biohazards, biowastes
- Equipment and lasers
  - Do not use without training and authorization of safety contact in lab (DTI)
- Chemicals (consider transport, too)
  - Understand and refer to SDS for all chemicals you use
    - REM will collect chemical waste
- Electricity
- Heat
Safety: Be Proactive

- Keep your lab organized and put things away
- Locate emergency safety equipment before you need it
  - Fire extinguishers, eyewash stations, safety showers
  - SDS records, safety procedures
- Notify safety contact (DTI) of any incident
  - Reporting your “near miss” may protect you in the future and may save someone else from an accident or injury
- Discuss any safety concerns you have
  - Talk to your DTI, your professor, REM or a member of the safety committee if you have concerns
Personal Protection Equipment

- Safety goggles
- Lab coat
- Face mask
- Gloves
- Long pants
- Shoes
- Safety harness

- Hearing protection
- Hard hat
- Safety vest
- OSHA certified ladder
- Respirator
- Fume hood

Important: Take contaminated gloves off before exiting the lab!
Safety First

- Potential obstacles to safety
  - Time pressure
  - Lack of knowledge
  - Carelessness and fatigue

- To increase safety
  - Develop and follow protocols
  - Make safety a consideration in all plans and procedures
  - Don’t be afraid to voice concerns regarding safety
<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Flame</th>
<th>Exclamation Mark</th>
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<tbody>
<tr>
<td>Carcinogen</td>
<td>Flammables</td>
<td>Irritant (skin and eye)</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Pyrophorics</td>
<td>Skin Sensitizer</td>
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<tr>
<td>Reproductive Toxicity</td>
<td>Self-Heating</td>
<td>Acute Toxicity</td>
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<tr>
<td>Respiratory Sensitizer</td>
<td>Emits Flammable Gas</td>
<td>Narcotic Effects</td>
</tr>
<tr>
<td>Target Organ Toxicity</td>
<td>Self-Reactives</td>
<td>Respiratory Tract Irritant</td>
</tr>
<tr>
<td>Aspiration Toxicity</td>
<td>Organic Peroxides</td>
<td>Hazardous to Ozone Layer (Non-Mandatory)</td>
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<thead>
<tr>
<th>Gas Cylinder</th>
<th>Corrosion</th>
<th>Exploding Bomb</th>
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<tbody>
<tr>
<td>Gases Under Pressure</td>
<td>Skin Corrosion/Burns</td>
<td>Explosives</td>
</tr>
<tr>
<td></td>
<td>Eye Damage</td>
<td>Self-Reactives</td>
</tr>
<tr>
<td></td>
<td>Corrosive to Metals</td>
<td>Organic Peroxides</td>
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<tr>
<th>Flame Over Circle</th>
<th>Environment (Non-Mandatory)</th>
<th>Skull and Crossbones</th>
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<tbody>
<tr>
<td>Oxidizers</td>
<td>Aquatic Toxicity</td>
<td>Acute Toxicity (fatal or toxic)</td>
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For more information:
OSHA®
Occupational Safety and Health Administration
U.S. Department of Labor
www.osha.gov (800) 321-OSHA (6742)
For any kind of emergency
Call 911 from any university phone
- 24 hours a day, 7 days a week
Emergency and Injury

- Call 911 for medical emergency
  - Defibrillator on the first floor by room 1149
- For workplace injury
  - Fill out REM form as soon as possible
    - http://www.purdue.edu/rem/injury/froi.htm
Civil Engineering Designated Trained Individuals (DTIs) for Safety

- Anahita Modiriasari
- Yu-Chung Lin
- Eshan Ganju
- Bahadir Kucukgok
- Michelle Mekker
- Mohammadhasan Sasar
- Bill Schmidt
- Nadya Zyaykina

- Amy Getchell
- Robert Hershberger
- Shahedur Rahman
HazCom/Right to Know, you have a right:
- To know the hazards that you work around
- To receive appropriate training
- To voice your concerns without negative repercussions

A chemical inventory exists for each lab and shared work areas and is maintained by the DTI (designated trained individual) for that area.

All chemicals must have an SDS which provides information about the safe use of the chemical.

Emergency procedure for chemical spill or safety issue:
- Leave the area, contact your supervisor, call 911
Safety Resources

- REM is Purdue’s safety consultant
  - [http://www.purdue.edu/ehps/rem/](http://www.purdue.edu/ehps/rem/)

Civil Engineering

- Safety website
  - [http://purdue.edu/CE/Safety](http://purdue.edu/CE/Safety)

- Online training
  - [https://www.eventreg.purdue.edu/WebCert/CourseListing.aspx?master_id=5182&master_version=1&course_area=CERT&course_number=123&course_subtitle=00](https://www.eventreg.purdue.edu/WebCert/CourseListing.aspx?master_id=5182&master_version=1&course_area=CERT&course_number=123&course_subtitle=00)

- Safety committee
  - [http://purdue.edu/CE/People/Administration/Committee/SafetyComm.html](http://purdue.edu/CE/People/Administration/Committee/SafetyComm.html)
Safety Tips

- Tip 1: Do not walk and text. Look out for others who are walking, people on bicycles and vehicles.

- Tip 2: Be careful walking at night. Make use of the Safe Walk Program. Call 494-8221, PUPD Dispatcher, and they will send an officer or a member of the Safe Walk Program to escort you anywhere on campus.

- Tip 3: Be aware of a suspicious package. Do not try to remove a backpack, package, box, etc. that has been left for an extended period of time. Warn others, leave the area and contact the PUPD.
To receive credit for this course you must complete the online Right-To Know training and email your certification to Jennifer Ricksy. Her email address is jricksy@purdue.edu. The online training link is https://www.eventreg.purdue.edu/WebCert/CourseListing.aspx?master_id=5182&master_version=1&course_area=CERT&course_number=123&course_subtitle=00. This is annual training you must complete every year.