ME BUILDING SAFETY OVERVIEW

A Quick Reference Guide for Safety Topics

For the Mechanical Engineering Building

During the 2023-2025 Renovation

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Building Contacts

In Case of Emergency – CALL 911 from any phone

- **Building Operations Manager:**
  Pam Graf, ME G044, 49-45654
  pgraf@purdue.edu

- **Assistant Building Deputy/Shipping Clerk:**
  Jacob Bailey, ME G044, 49-45621
- baile367@purdue.edu

- **Managing Director of Technical Services:**
  Michael Logan, ME 1200, 49-63742
  loganm@purdue.edu

- **Assistant Department Head, Facilities and Operations:**
  Jun Chen, ME 2145, 49-47050
  junchen@purdue.edu

Building Contacts – After Hours

After Hours Non-Emergencies Contact Information

For non-emergency situations that are urgent and time sensitive, you can call the Purdue Police dispatch non-emergency number to get help after hours.

- **Purdue Police**
  - **Non-Emergency Number: 494-8221**
    - **If you lock yourself out of your office after hours, call Purdue Police, non-emergency number**

- **If it is an emergency – DIAL 911**

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ME Building Emergency Plan

All users of the ME Building are expected to be familiar with the Emergency plan and complete an annual refresher quiz.

Purpose of the Building Emergency Plan

All Purdue Buildings are required to create and maintain an Emergency Plan.

- What to do in case of Fire
- What to do in case the All-Hazards Siren goes off.
- Locations of severe weather shelters.
- Locations of AED's for Medical Emergencies.
- Emergency Contact Information

Location of the Building Emergency Plan

Users of the ME Building are expected to read and review the ME Emergency Plan

- This presentation is merely a review of key points. It is important to review the entire ME Emergency Plan.

You can find the ME Emergency Plan on the Web

- From the Campus Emergency Prepardness Website
  - https://www.purdue.edu/ehps/emergency-preparedness/emergency-plans/bep/
- From the ME Homepage
  - https://engineering.purdue.edu/ME/AboutUs/Safety

For All Emergencies Call…..

READY Purdue
PREPARE, PLAN, STAY INFORMED

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Evacuation Alarm - FIRE

When the Fire Alarm Activates, Leave the Building Immediately using the Closest Available Exit

- Do NOT continue working. Safely shut down any equipment and leave the area.
- Know the closest emergency exit. Be aware of alterative exit points in case the primary exit is blocked.
- With the renovation project, egress pathways have changed.
- Proceed to the Emergency Assembly area
  - Engineering Mall
  - MSEE Atrium
- Do NOT re-enter the building until cleared to do so by a uniformed officer (Police or Fire)

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Evacuation Alarm - FIRE

To Activate the Fire Alarm, use a Pull Station

- This WILL turn on all the Fire Alarm system and evacuate the building. You CANNOT reset this once activated.
- The Fire Department will respond to this action.
- Once you have left the building, Call 911 to report the activation and provide additional details to emergency responders.
- Proceed to the Emergency Assembly area
  - Engineering Mall
  - MSEE Atrium

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Evacuation Routes (Hallways)

Hallways MUST be kept clear and egress widths maintained

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Construction, Closed Areas, Emergency Egress

If you see this sign, this is an emergency exit only.

Do not enter this area unless it is an emergency and you cannot use the normal exits.

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Construction, Closed Areas, Emergency Egress

If you see this sign, do not go any farther. The area beyond this sign is closed for construction.

Construction, Closed Areas, Emergency Egress

These doors on the 2nd floor are Emergency Exit Only

Do not enter this space unless it is an emergency and you cannot use the normal exits!

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Construction, Closed Areas, Emergency Egress

Do not enter these doors in the ground floor atrium.
This area is closed for construction

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Construction, Closed Areas, Emergency Egress

Do not enter these doors in the 2nd floor commons area. This area is closed for construction

Evacuation Routes

Basement ME

Basement Gatewood

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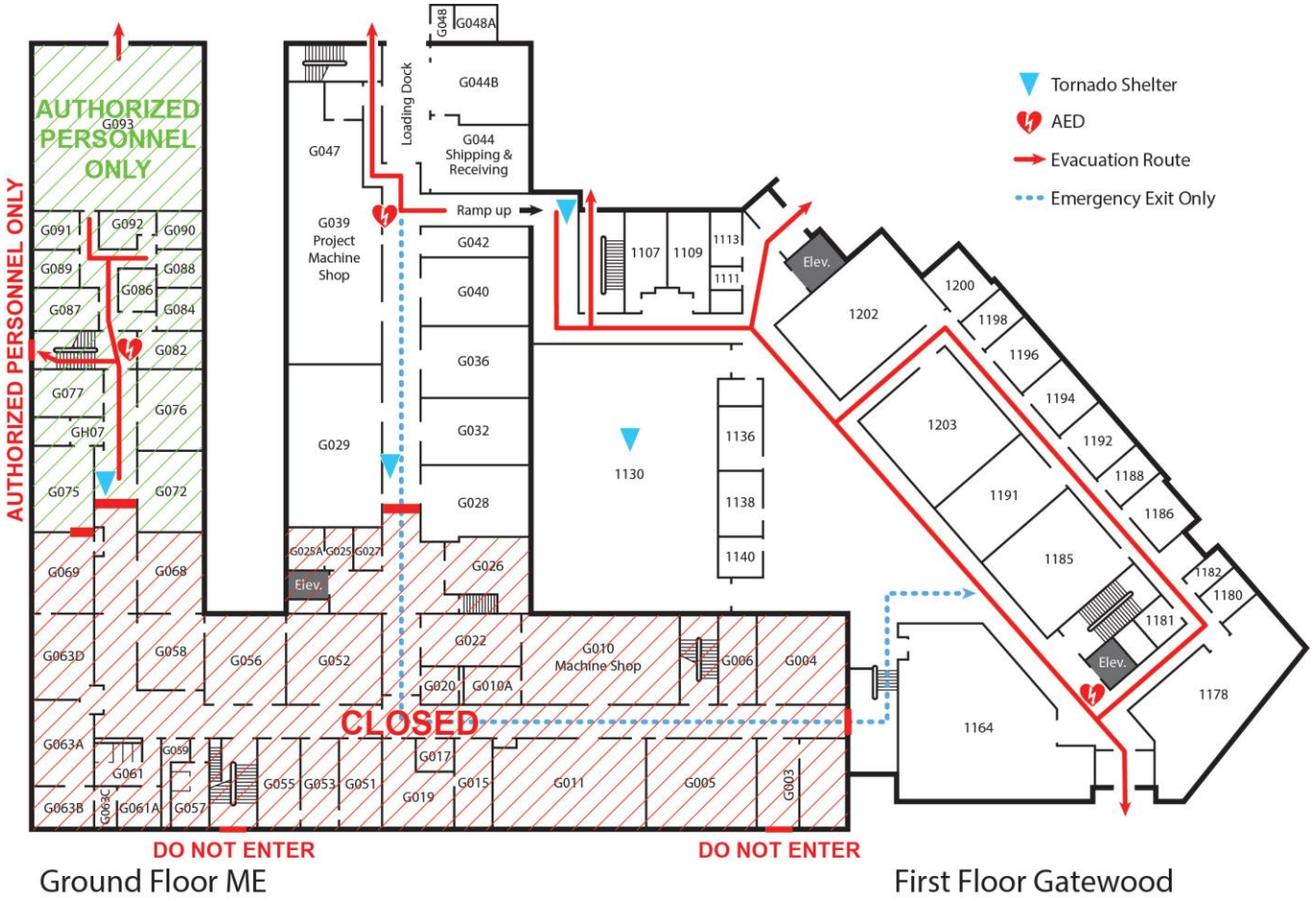
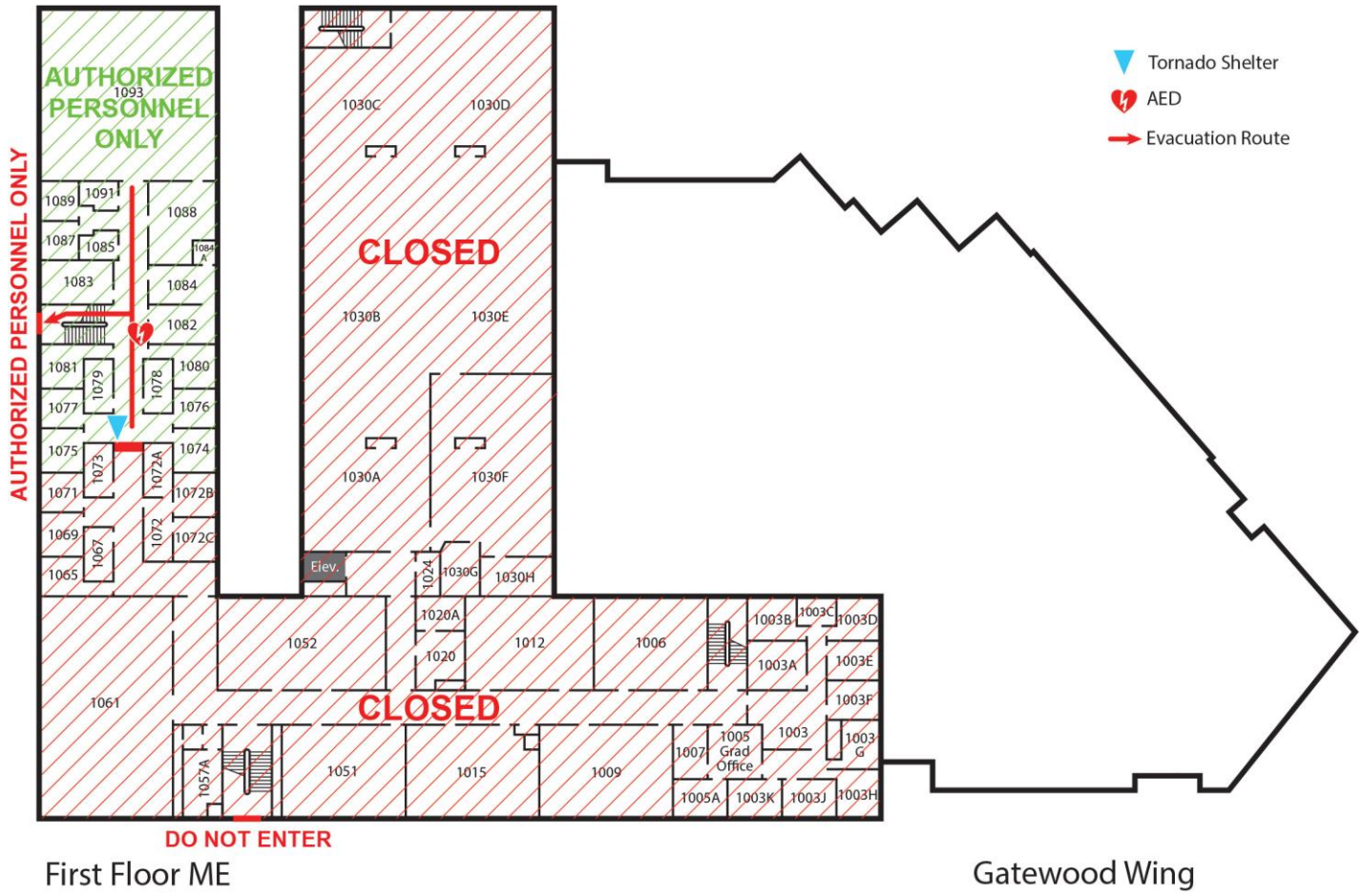
Evacuation Routes



Evacuation Routes



Evacuation Routes

Second Floor ME

Second Floor Gatewood

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Evacuation Routes

Third Floor ME

Third Floor Gatewood

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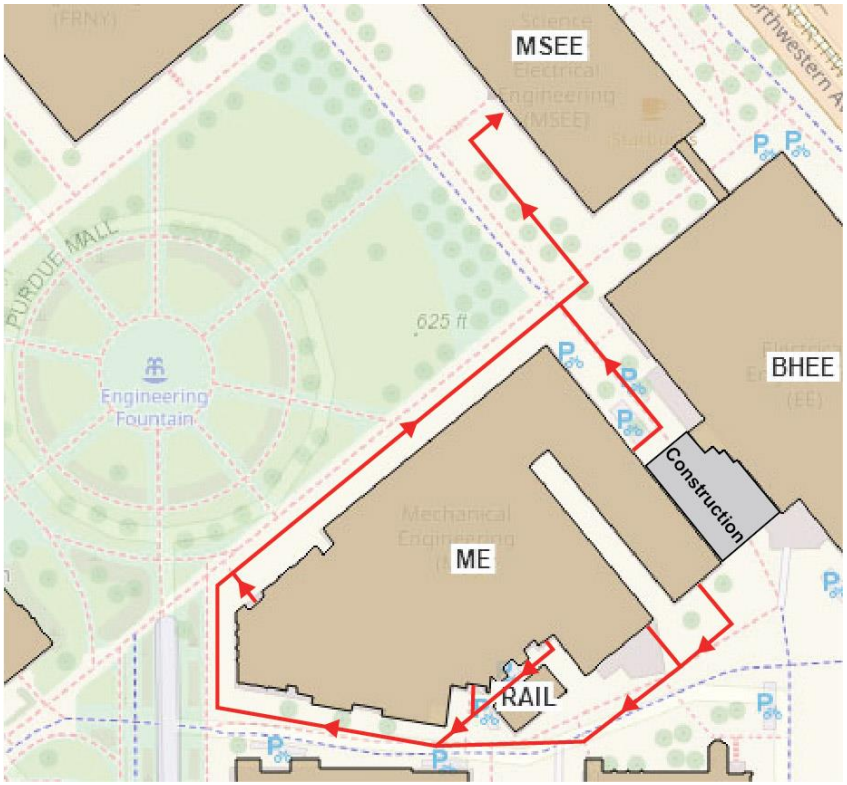
Evacuation Routes - Emergency Assembly Area

The Primary Emergency Assembly Area – Engineering Mall

Secondary Emergency Assembly Area – MSEE Atrium



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All Hazards Siren – Shelter in Place

When the All Hazards Siren Activates, Go Indoors Immediately

- Determine the cause of the siren using:
  - Text Alerts
  - E-mail Messages
  - Purdue Home Page
- Take Appropriate Action for the Emergency.

Emergency Alert Beacons – ME 1061 and 1130

There are (2) Emergency Alert Beacons in the ME Building

- These Activate with All-Hazards Siren
- If these activate, determine the cause of the activation:
  - Message on Alertus Screen
  - Text Alerts
  - E-mail Messages
  - Purdue Home Page
- Take Appropriate Action for the Emergency.

All-Hazards Siren – Weather Emergency

In case of Severe Weather or Tornado

- Move to an interior space away from windows and skylights
- If possible, move to the Basement, Ground, or First Floor
- Look For this sign. Locations are indicated on evacuation maps and building maps in hallways
- Wait for the All-Clear

All Hazards Siren – Shelter in Place

In the case of Campus Violence or Active Shooter

- Move to interior rooms that can lock
- Stay Away from Glass Doors and Windows
- Remain 'Out of Sight' from someone outside the room
- Evaluate your options for escape and concealment

Shelter-in-Place Considerations

Shelter-in-Place Considerations for Life-Threating Incidents

This information is designed to encourage building occupants to develop an individual plan based on potential life threatening incidents such as a shooting on campus. Actions should be based on situational awareness. React to Purdue ALERT information as well as what you see and hear in your general area. See EP website for more info

http://www.purdue.edu/emergency_preparedness/

Shelter-in-Place Considerations

Get Ready...be prepared. A life threatening incident has occurred on the West Lafayette campus; incident location is not near me.	**General Actions:** ▪ Follow information sources: Homepage, Twitter @PurdueEmergency, text & email alerts. ▪ Review your BEP (located on the ME website). ▪ Notify others of incident. ▪ Review internal procedures; be ready to implement. ▪ Plan next steps if incident impacts my area: o Should I get out? o Where will I shelter if needed?	**Specific actions based on your location:** ▪ Note that several building doors will lock but are accessible by key or card access. ▪ Be sure to have your Purdue ID on your person. ▪ Identify a location that can be barricaded or locked where you can shelter if needed. ▪ Identify exit paths from the building that will allow you to escape if needed.
Get Set...stay alert; be prepared to implement your plan. A life threatening incident has occurred on the West Lafayette campus; incident location is near me but not in my building.	**Implement all Get Ready actions.** ▪ If the threat is ongoing or you feel your safety is in jeopardy, implement your department or building specific actions. ▪ Be ready to get out/escape or shelter in safe area based on situational awareness.	**Prepare to shelter in place if necessary.** ▪ Prepare to escape if that is best option. ▪ Shut down any hazardous-material operations. ▪ Leave laboratories and cleanroom in a safe condition. ▪ Be sure to have your ID with you.
Go...stay calm and activate your plan. A life threatening incident has occurred on the West Lafayette campus; incident location is in my building or I feel my safety is in jeopardy (location of perpetrator is unknown).	**Based on situational awareness, immediately:** ▪ Decide if you can escape; if possible get out of the building to a safe location. ▪ If you can't escape, then shelter in a lockable area and/or a room that you can secure or barricade. ▪ As an absolute last resort, consider taking action if your safety is in jeopardy	Execute your plan as indicated in General Actions to the left.

AED's – Automated External Defibrillators

AED's are available on all floors

- These tools will diagnose and treat cardiac arrythmias.
- These are used in conjunction with CPR/CCR to provide lifesaving care before Emergency Medical Services arrive
- If you use an AED, make sure to call 911 as well.
- CPR Training is available at no cost through the Purdue Fire Department

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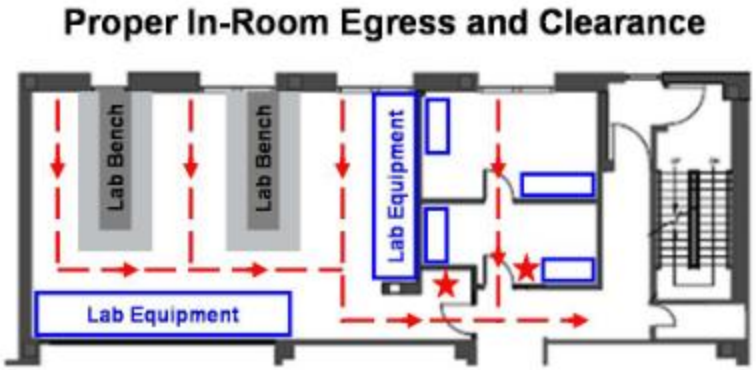
General Facility Safety

This is an overview of common safety issues found in many of the schools facilities and research laboratories

Housekeeping and Protecting Walkways and Aisles

Fire Code requires clear walkways and aisles

- Each area must maintain proper aisles and walkways throughout the space
  - Typical minimum width is 36"
- Doors must have clear access
- Electrical Panels must have clear access in front of them.
- Rooms should avoid storing excess items, cardboard boxes, and trash.



Electrical Power Safety

Safe Use of Electrical Cords and Power Strips

- At Purdue, extension cords may only be used for temporary uses. These should not be 'installed' or 'routed' in a room to provide power to a location
- Electrical cords, network cables, and other similar cables may NOT be placed across walkways, Aisles, or Doorways. Cord Tunnel devices are not permitted at Purdue.
- When using Power Strips, you cannot 'daisy chain' devices. Each power strip must plug directly into a wall outlet. You can NEVER plug one power strip into another.

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Food and Drink in Various Locations

Food and Drinks are allowed only in certain areas

- Eating and drinking around hazardous chemicals is an OSHA violation and a health hazard.
- If chemicals are used in an area, you should not have human food and drink present
- Area's where Food and Drink are prohibited should be clearly marked.

Chemical Labels and Safety Data Sheets

Any Chemical Used in a Room must have a Safety Data Sheet (SDS/MSDS) available and be listed on the Chemical Inventory in the labs Safety Binder

- If you are using chemicals, you must:
  - Maintain a current inventory, updated as new chemical arrive
  - Maintain a binder of Safety Data Sheets for each Chemical
  - Ensure every container in room has legible labels for what the contents are. Labels should meet GHS standard.
- If you bring in a new chemical, you must add it to the Chemical Inventory for the room and add the Safety Data Sheet to the labs Safety Binder
- Chemicals include items such as Motor Oil, Cleaning Fluids, Paint, Adhesives, and Compressed Gases. This is not limited to traditional Chemical Reagents.
- Area's where Chemicals are used should NOT have Food or Drinks.
- If you add a new chemical, you should update SOP's and Hazard assessments as needed to reflect this new chemical

Lock Out/Tag Out Awareness

There is a significant amount of equipment installed in the ME building that may be part of a Lock out/tag out program.

THIS IS NOT LOCK OUT/TAG OUT TRAINING

This is an awareness level of training ONLY

- Equipment with Lockout capability is used extensively in the ME Building
- If you will be interacting with equipment that is covered by a lockout/tagout program, you must complete REM training
- Training is available here: https://www.purdue.edu/ehps/rem/training/index.html#L

What to do when you find a Lockout Tag

A Piece of Equipment may be 'Locked Out'

- Any piece of equipment that is 'locked out' should NOT be used.
- The Lock Out tag is a safety measure to protect individuals working on the equipment.
- Lock Out Tags will have contact information for the person who placed the equipment out of service.
- Do NOT Remove Lockout tags/locks from equipment. Only the 'Tag owner' can remove this.

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Compressed Gas Safety

Numerous research and instructional facilities use compressed gas cylinders. This is an overview of the fundamentals of safety.

THIS IS NOT COMPRESSED GAS TRAINING

This is an awareness level of training ONLY

- Compressed Gas cylinders are portable tanks used to store a broad range of gases used in research
- If you will be using compressed gas cylinders, you MUST complete the REM Compressed Gas Safety training. Your PI must also train you on the specific gasses you will be using.
- Training is available here: https://www.purdue.edu/ehps/rem/training/index.html#C

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Hazards of Compressed Gasses and Cylinders

Compressed Gas Cylinders can present the following hazards

- Physical Hazards
  - Crush Injuries from heavy cylinders
  - Potentially lethal injuries from unexpected release of high-pressure gas
  - Thermal injures including frostbite from adiabatic cooling
- Chemical Hazards
  - Small Leaks of product from valves, hoses, and fittings
  - Uncontrolled product release
  - Can have immediate and acute health hazards
- Respiratory Hazards
  - Many compressed gases are asphyxiants. They can displace Oxygen in the Atmosphere

Proper Storage of Compressed Gas Cylinders

Compressed Gas Cylinders Must be Stored Safely

- Cylinders must be secured
  - Capped cylinders can be chained together
  - Cylinders with Regulators must be chained individually
- Cylinders not in use MUST be capped
- Do NOT use/move cylinders without training

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Laser Safety Awareness

Numerous research and instructional facilities use high powered lasers. This is an overview of the fundamentals of safety to keep non-laser users safe.

THIS IS NOT LASER TRAINING FOR USERS OF LASERS

This is an awareness level of training ONLY

- If you will be using lasers, you MUST complete the REM Laser Safety training. Your PI must also train you on the specific laser you will be using.
- If you will be using lasers, your PI MUST add you as a user to the appropriate Approved Laser Safety Project.
- Training is available here: https://www.purdue.edu/ehps/rem/training/index.html#L

Hazards of High Powered Lasers (class 3b, class 4)

High Powered lasers can present the following hazards

- Eye Damage
  - Thermal Burns
  - Microcavitation injuries
  - Photochemical injuries
  - Loss of vision/blindness
- Skin Injury
  - Thermal Burns
  - Tissue Vaporization
  - Photochemical injuries
- Non-Beam Laser Hazards
  - Electrical Shock
  - Airborne Contaminants
  - Chemical Exposures

Identifying Labs where Lasers may be in use

All Facilities using High Powered Lasers will have:

- There will be a sign on the outside of the lab door indicating a Laser is present in the space.
- Labs will have a 'Laser in-use' warning light or beacon. These vary in style but will indicate 'Laser'.
- Do not enter labs where the 'Laser in Use' beacon/light is illuminated.

THANK YOU

If you have questions, please contact Mike Logan or Pam Graf. Contact details located at the beginning of this presentation.

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