Chemistry 101

Laboratory Sessions

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Class ALWAYS starts on time

Each lab has a briefing

Miss briefing ➔ Can't do lab
(WCC Risk Management Policy)

Each lab is different …
instructor reserves the right
to deny seating based on missed content

Tardiness is a safety hazard to all in the lab!

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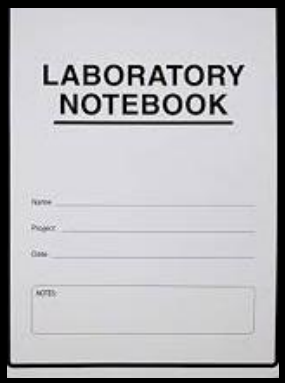
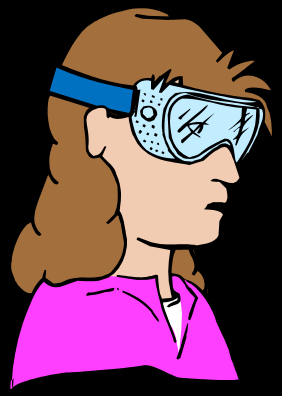
Required Materials

Cem Department lab handout (Must Print)
Carbonless copy lab notebook (does not have to be WCC)
Safety goggles (Department or personal)
Hand-held "scientific" calculator
(Phone apps not acceptable)





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No Electronics (except calculators) On Lab Bench

Protect your investment:
Keep away from flames and potential spills

Electronics on table is asking for disaster
Store electronics in personal storage area

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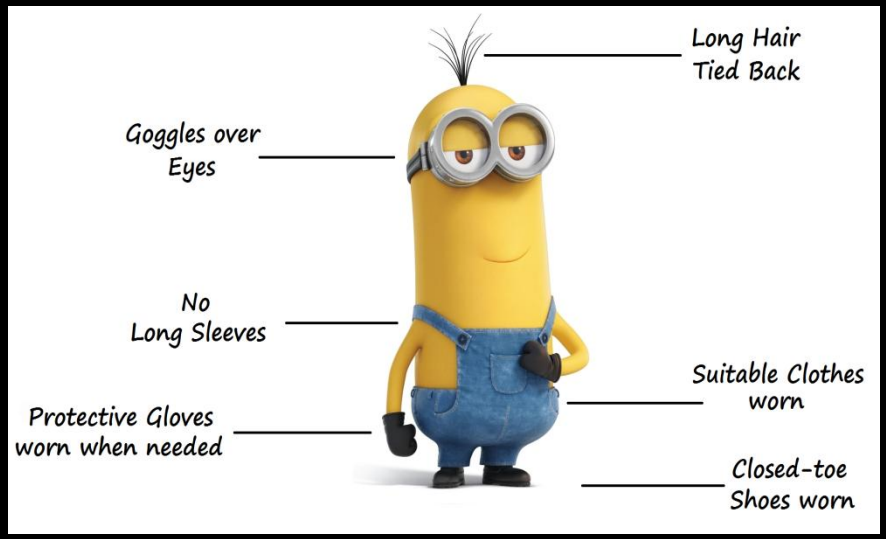
Dress Code (For Hands On Lab)

Skin you don't want burned or spilled upon should be covered

Statistically, most injuries during intro labs: Below the knees

Recommendations:

- **No shorts**
- **No sandals**
- **No exposed skin below the waist**
- **Leather (not cloth) shoes**



Consider:

- **Tying back long hair**
- **Wearing Sturdy NATURAL FIBER old clothes**
  - **Synthetics stick to skin when burned**
  - **Cotton and "non-fuzzy" wool preferred**

Best to wear glasses, not contacts

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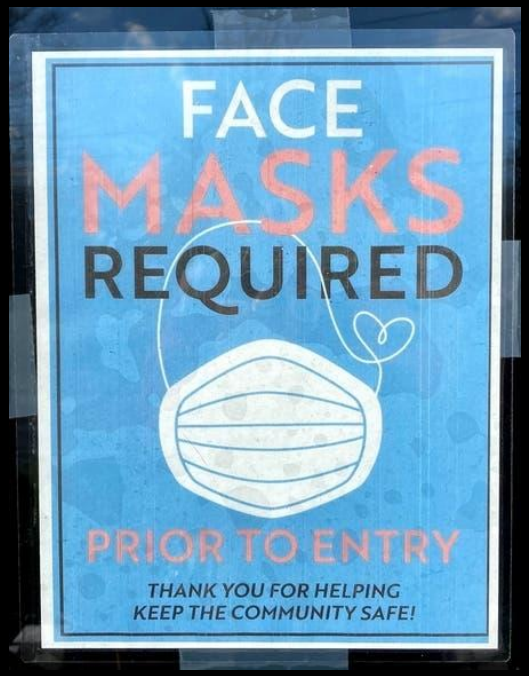
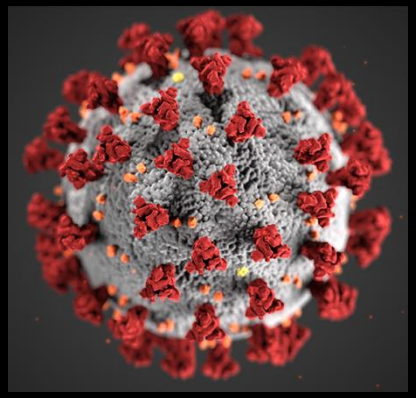
Masks Required In The Lab



College Requirement

Cannot do lab without mask



On Blackboard: Why I Wear A Mask

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Behavior

Have fun with chemistry, not pranks
Keep floors & aisles clear
Professional labs:

No

- **Food (including gum)**
- **Drinks**
- **Cosmetics**
- **Smoking**

‘cause these can absorb lab chemicals

Instructor Vigorously Enforces No Food, Drink or Gum

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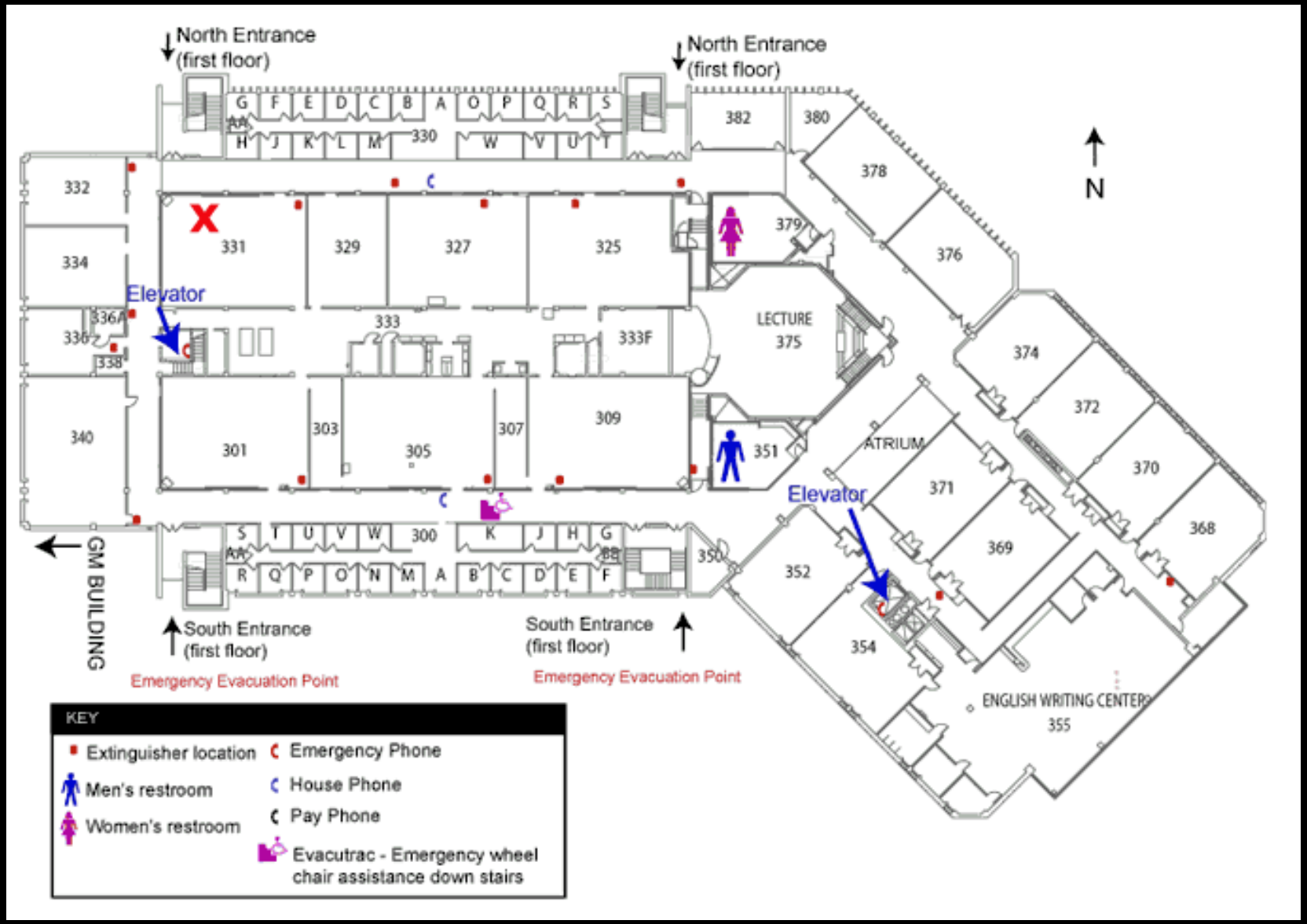
Lab Location – LA 331 (NW Corner of building)



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Lab Door-LA 331

Entry Here
Begins
Your Weekly Exploration of
Practical Chemistry

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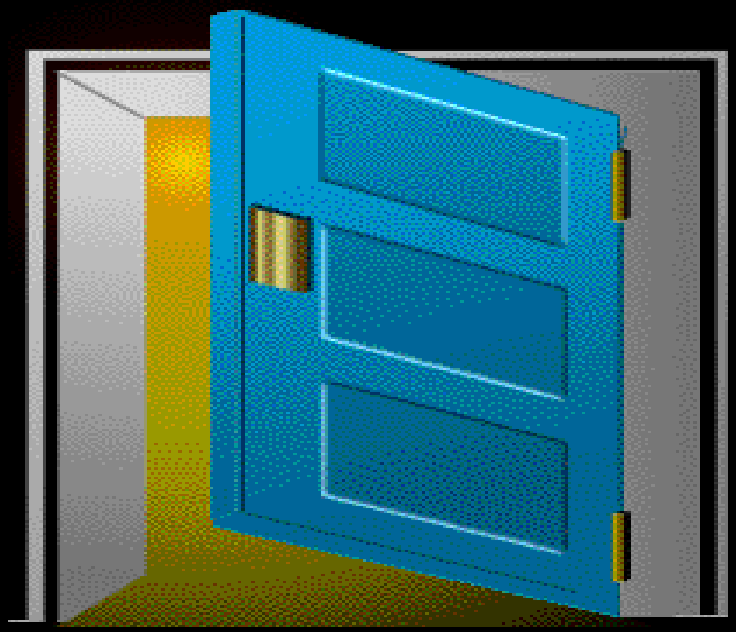
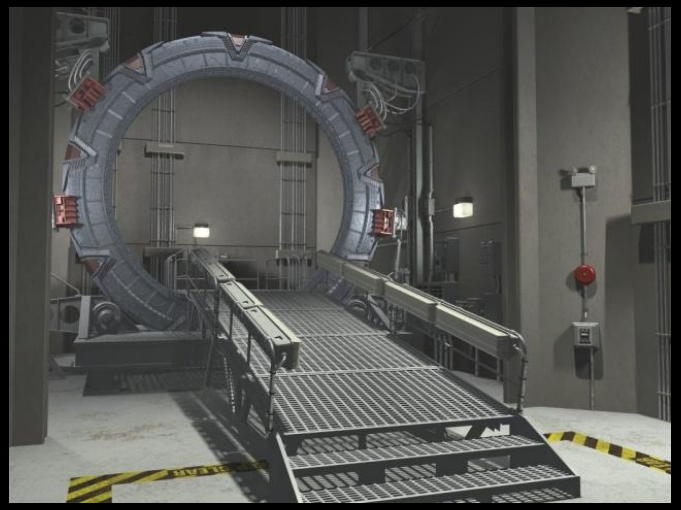
Entry View





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Entry View: Looking Left From Doorway

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Entry View: Looking Right From Doorway

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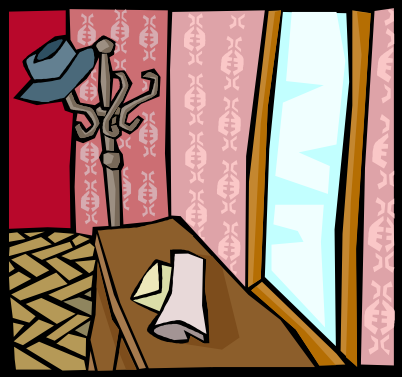
Coat Rack

Immediately on Your left

Storage for coats
&
Personal Objects



Store “stuff” here, not under lab benches

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Cabinets

East Wall; Left of Doorway)

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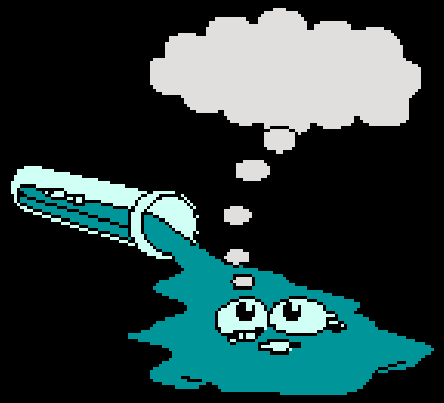
Solutions For Neutralizing Spills

(East Wall)



Notify Instructor of spills

Instructor will determine and apply proper solution (if needed)

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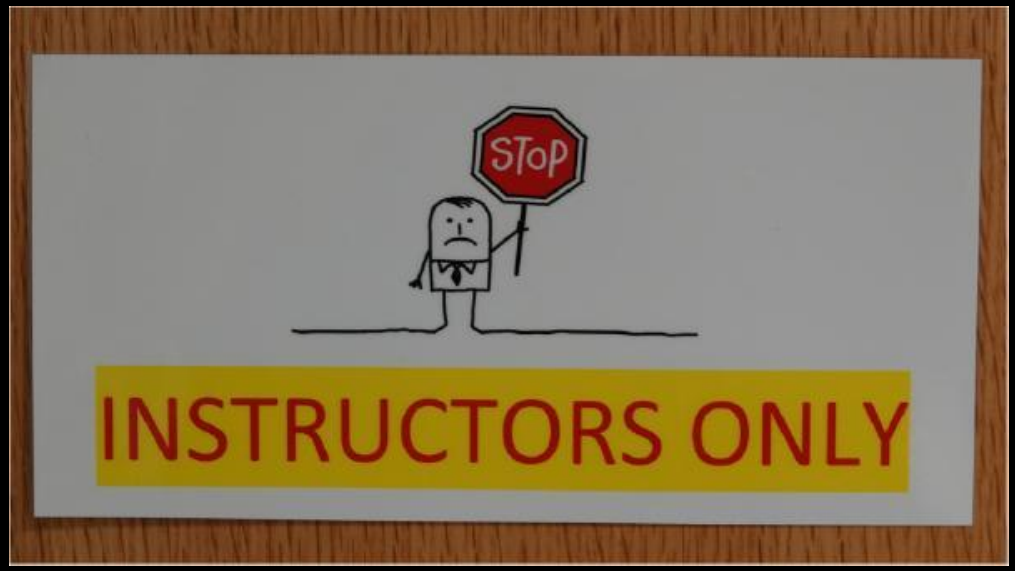
Entrance to Chemistry Core

(South East Corner)

Open During Class

Emergency Exit Only



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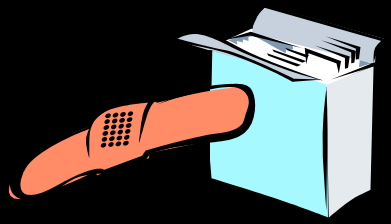
First Aid Kits

Historically,

College First Aid kits are pilfered

So,

First Aid Kits are in the Prep Area (instructor access only)



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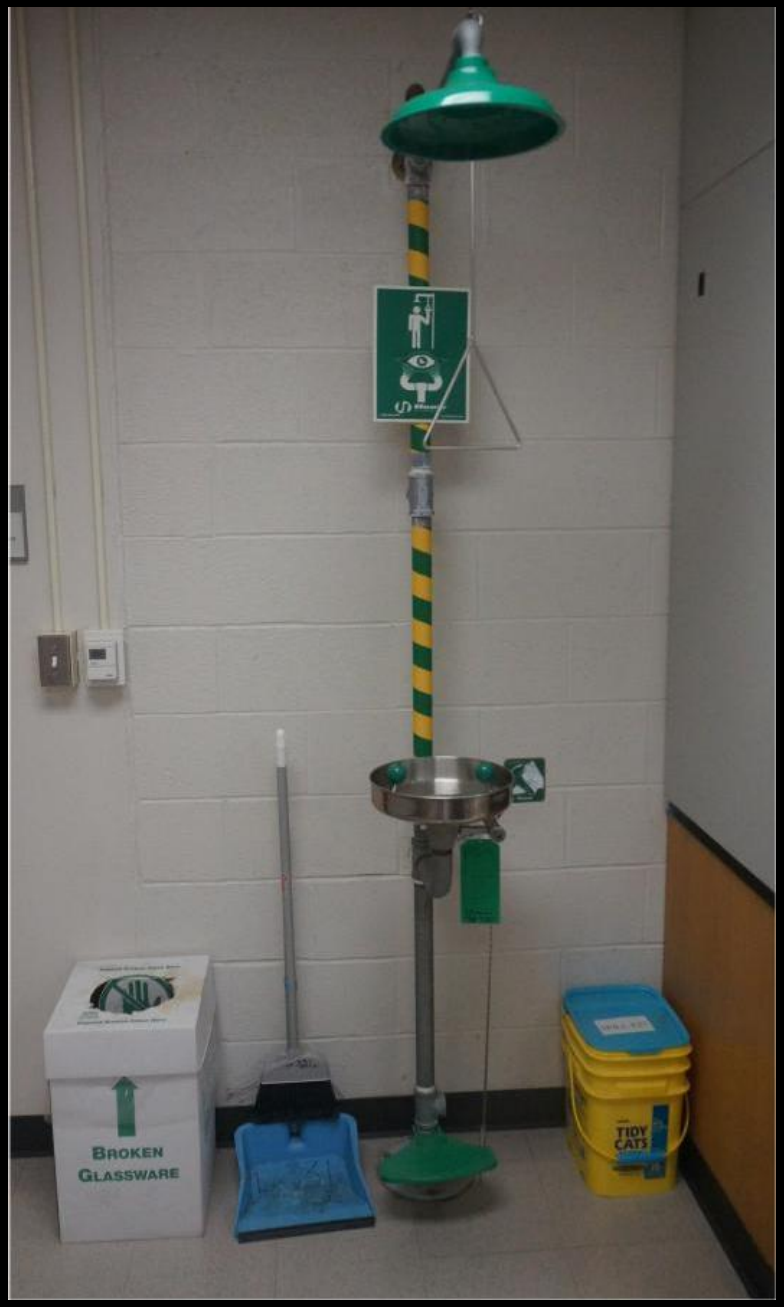

Safety Shower
Eye Wash
Broken Glass Disposal
Spill Kit
(South Wall)

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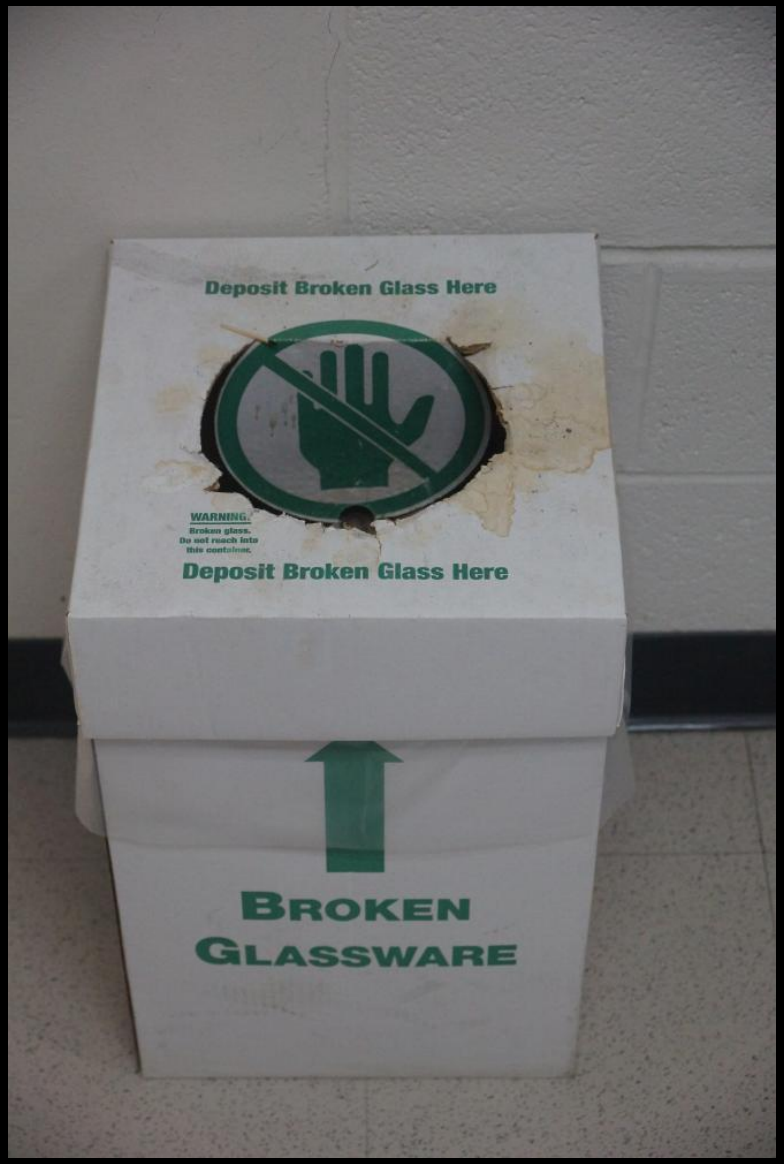

Broken Glass Disposal

(South Wall)

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Spill Clean-up Kit

Spill Kit and Mercury kit in Prep Area

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Hoods
(South Wall)

Air Exhaust Rate

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Student Desks

6 Desks
4 Students per Desk

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Cabinets
(West Wall)

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Balances
(NW Corner)

Do not move
Leave turned on

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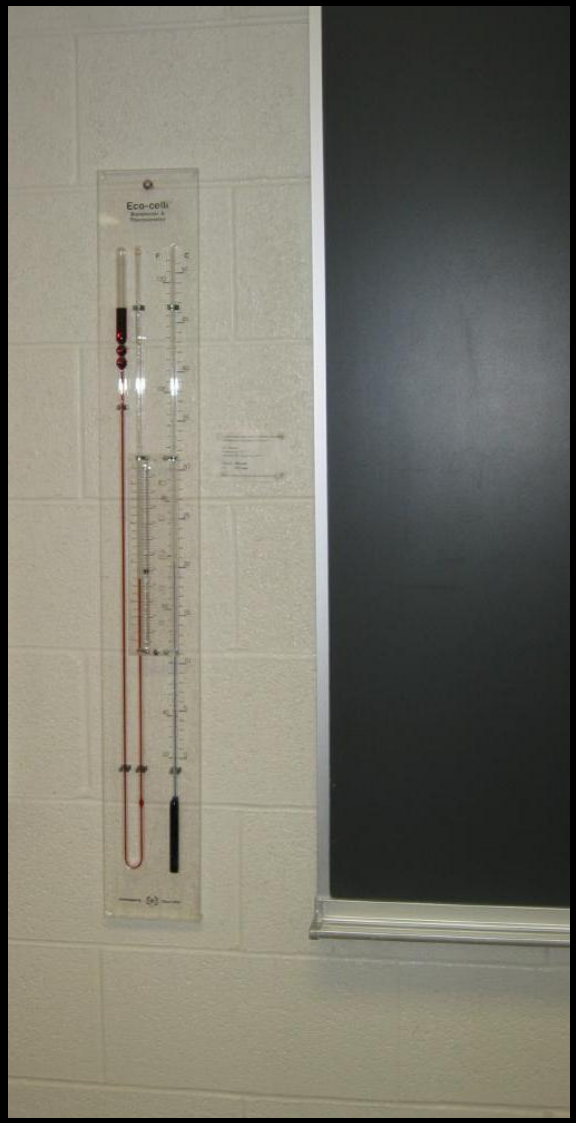

Barometer & Thermometer

North Wall: Left of Instructor's Desk

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Instructor's Desk
(North Wall)

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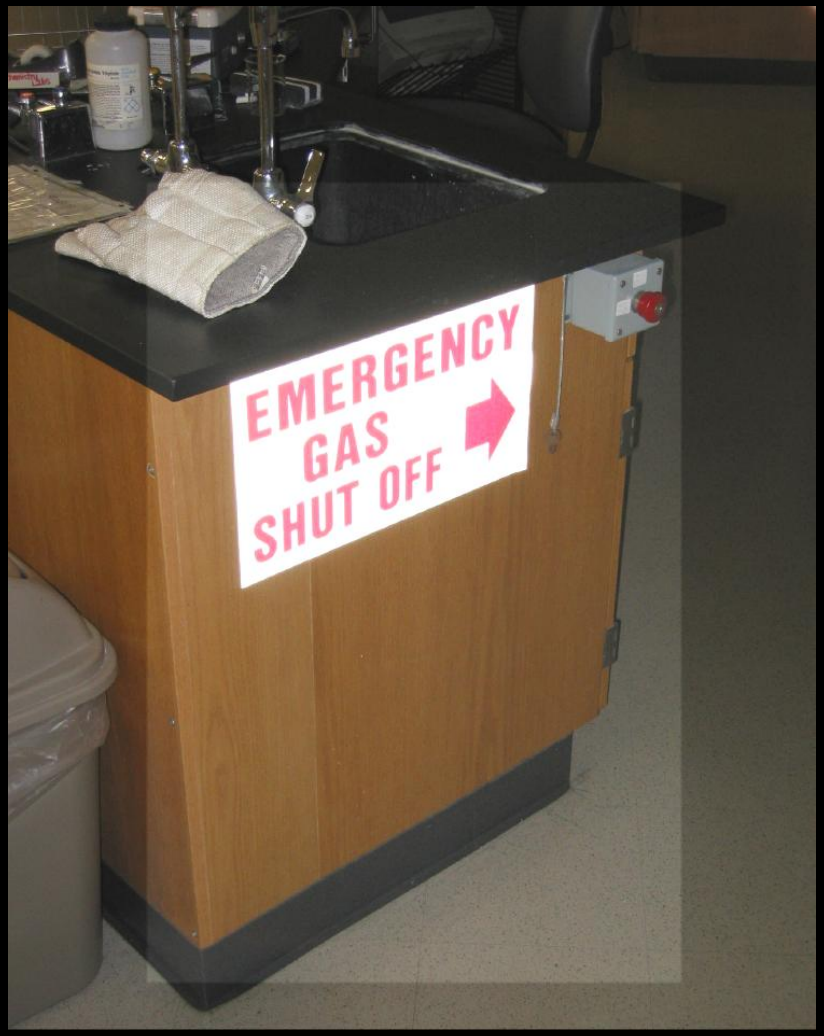
Emergency Gas Shut-Off

(East Side-Instructor's Desk)



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North Wall: Right of Door

HID: Door Lock Alarm
Emergency Room Air Evacuate
Emergency Exit Diagram

Light Switches

Fire Extinguisher
Fire Blanket

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Chemistry Department Goggles For Students

North Wall: Next to Coat Rack

Cabinet Location

Cabinet: Close Up

Cabinet: Open

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Before First Class Begins

Take a seat
Greet your neighbors

Look around the lab

Note locations of “safety stuff”
- Fire Extinguisher
- Fire Blanket
- Gas Shut-Off Valve
- Neutralizing Solutions
- Spill Kit
- Glass Disposal
- Safety Shower
- Eye Wash
- Hoods
- Nearest Sink

Lab 1 Hand-In has a sketch the lab exercise
This can be done before class starts

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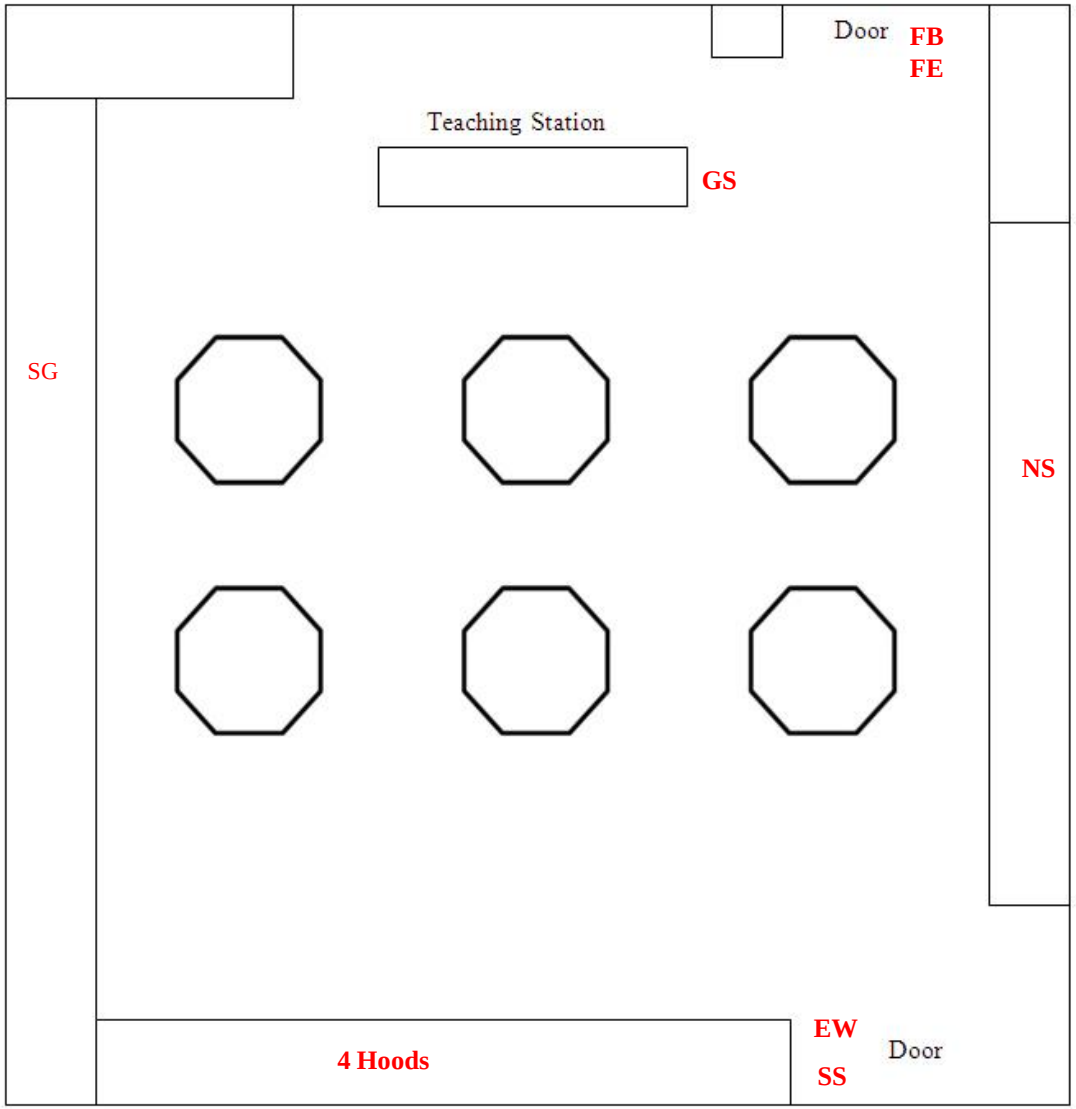
Lab Schematic: Safety Features



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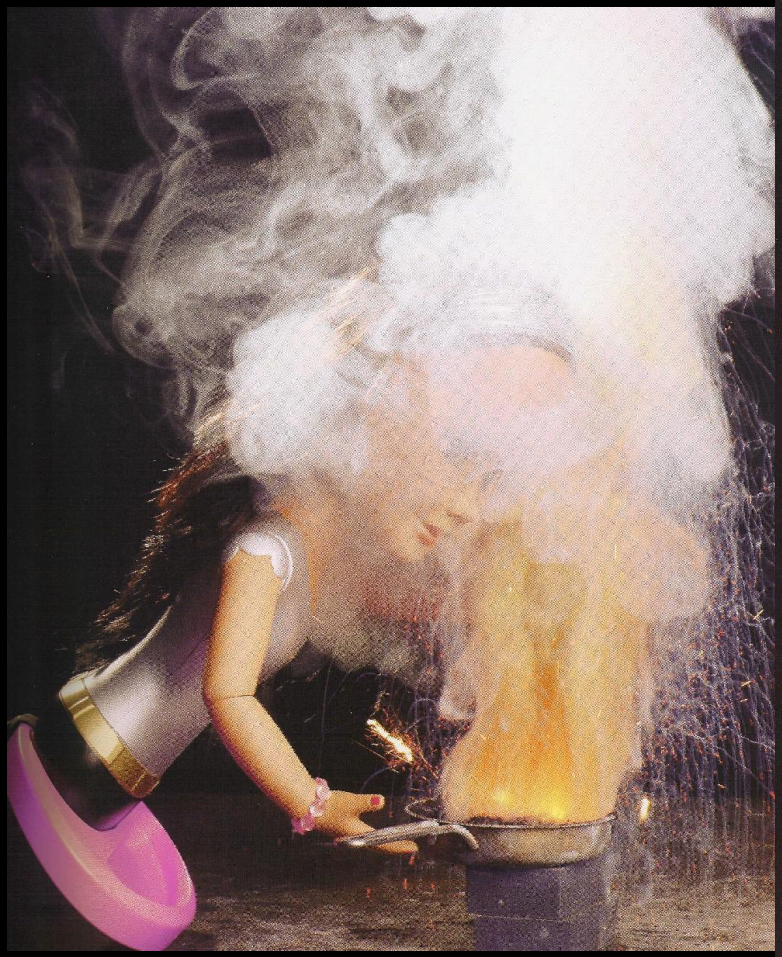
Wear Safety Glasses When Advised



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Respect Flames

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Assume All Glassware is Dirty

Wash & Dry Before Using
Wash, Dry, & Put Away After Using

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Do Not Dry Glassware with Compressed Air

Compressed air contains oil droplets, dust, and other particulates.
So, using compressed air to dry glassware may:

1. **Make the glassware dirtier than before washing**
2. **Convert small objects (like test tubes) into projectiles (Potential injury source, especially if glass shatters)**
3. **Drive particulates thru skin to impale on bone tissue**
3. **Promote lipoid pneumonia (Breathing oil droplets is unhealthy)**
4. **Provide ignition source (oil buildup)**
5. **Startle others (potential for dropped glassware)**

Air directly from compressor:
Does not meet human breathing standards

Meeting human breathing standards requires:

- **Oil removal traps**
- **Water removal traps**
- **Particulate removal filter (s)**
- **Catalyst to convert any CO to CO_2 (higher quality)**
- **Quarterly documentation of purity (by analysis)**

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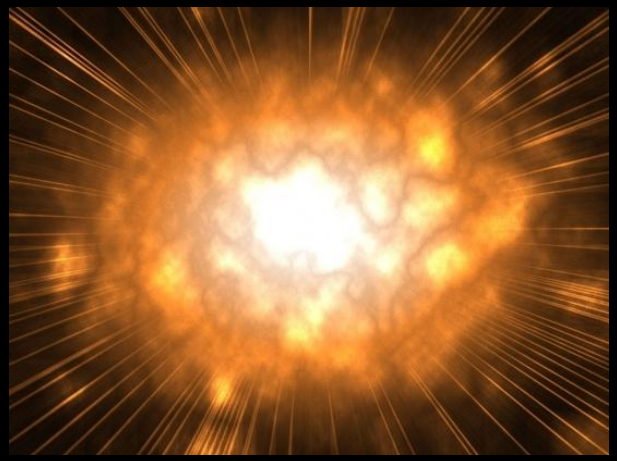
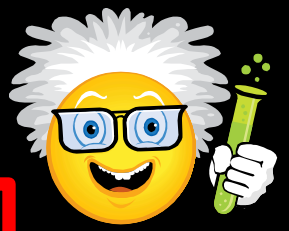
Lab Philosophy

In the Chemistry Lab,
As in Life,
It's what you do NOT know that poses greatest risk!

So,
Knowledge of risks
&
Prior preparation for handling accidents
Becomes the best strategy for accident prevention.



The Lab Will Be Fun & Enlightening



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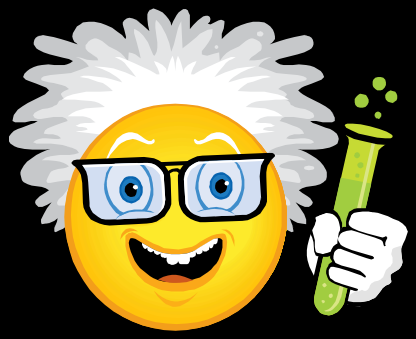
Thanks for viewing this slide set!
Knowing what is here and
where stuff resides
will make this class soooooooooooo much easier!



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