

# Challenges and Rewards in Enforcing Laboratory Safety and Training: First Year on the Job

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HOWARD  
UNIVERSITY

# As a chemical hygiene officer

Chemical Hygiene Plan

SOP

Globally Harmonized System

SPILL CONTINGENCY PLAN

Are we compliant?

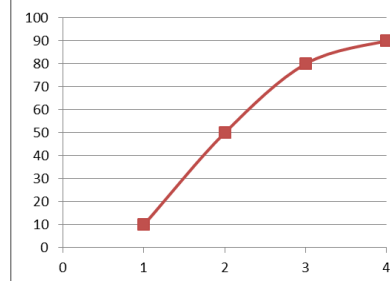
Toxic Substance Control Act

29 CFR 1910.1450

Safety audit

Code of Federal Regulations

Learning Curve





# Challenge 1 Expired plans and logs

Item	Issue	Challenge
Contingency Plan Chemical Spill	Outdated	Needed a total overhaul and supplies unavailable
Log -Emergency Eye Wash	Log not traceable	relatively easy
Inventory of Chemicals	10 years old	Scattered and disordered chemicals

# Challenge 2: non-functional safety equipment



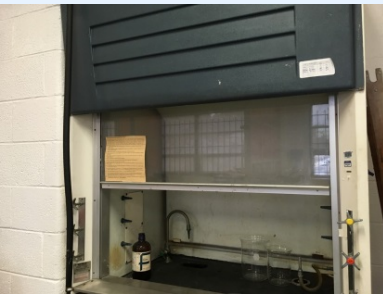
**Rusted and leaky; No water flow in some**

**Scheduling difficulties with “facilities dept.”**



**Not attached to exhaust**

**Lack of qualified personnel to fix**



**Noisy exhaust fan**

**Limited funding to fix infrastructure**





**No water**

**Scheduling difficulties with “facilities dept.”**

# Challenge 3: Miscellaneous

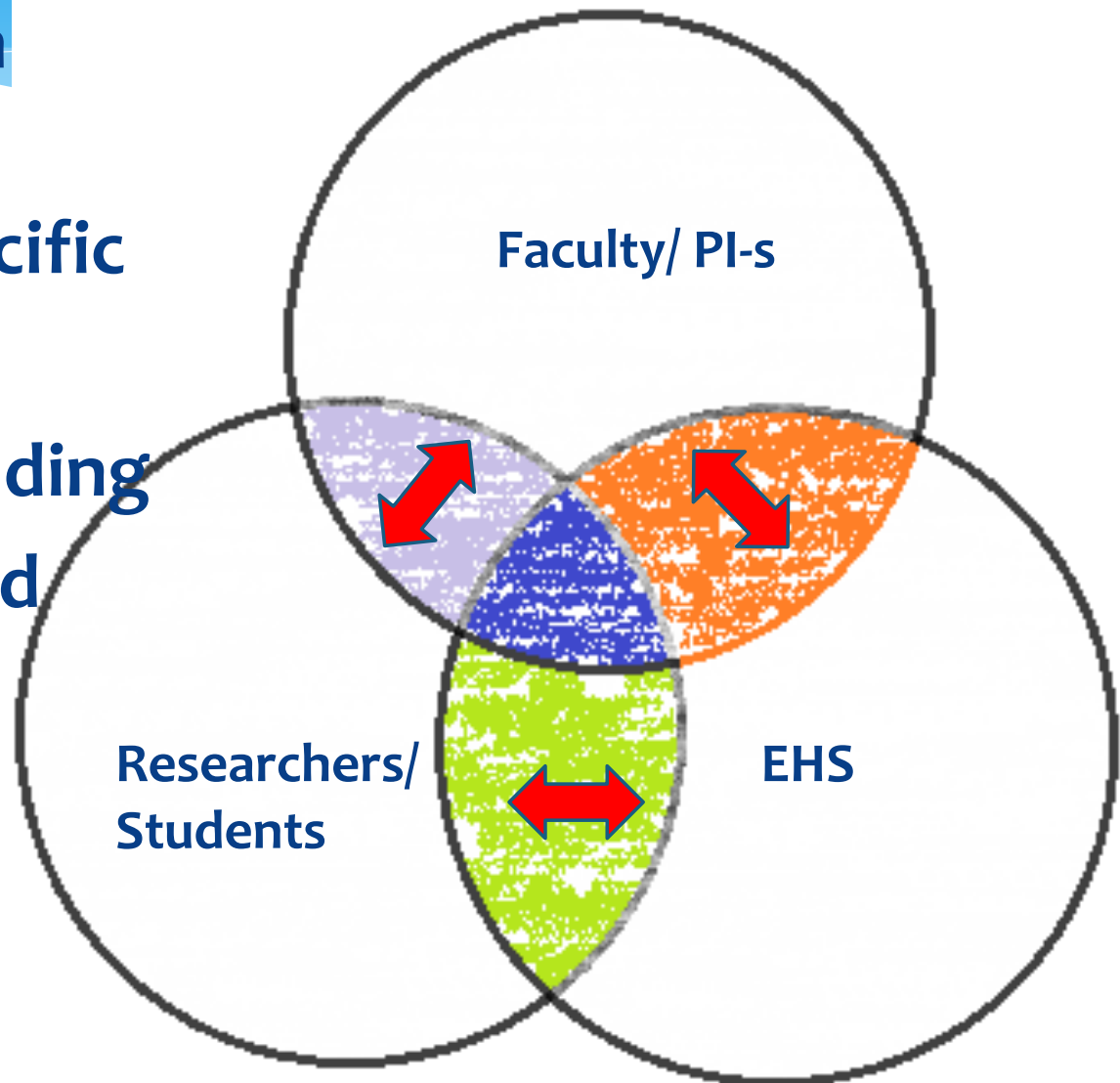
Issue	Challenge	How was it addressed
Expired chemicals	Worn out labels	Categorized as “un-labelled” with higher disposal cost
Falling drop ceiling due to leaks	Getting a permanent fix/aging infrastructure	Ceiling removed, instrument moved
Long standing hazardous wastes	Missing information on the labels, no proper use of containers	Tested to identify the category of wastes

# Challenge 3: Miscellaneous

Issue	Challenge/reason	How was it addressed
	Insufficiently trained personnel	Issuing warning notices, posting signs, making safety training mandatory
Handling bio-organisms in a non-certified lab	Fulfilling requirements; lack of cooperation from PIs and researchers	Issuing warning notices and including them in emails addressing to higher level safety office
	Not having a centralized satellite waste station	Set-up a central satellite waste station

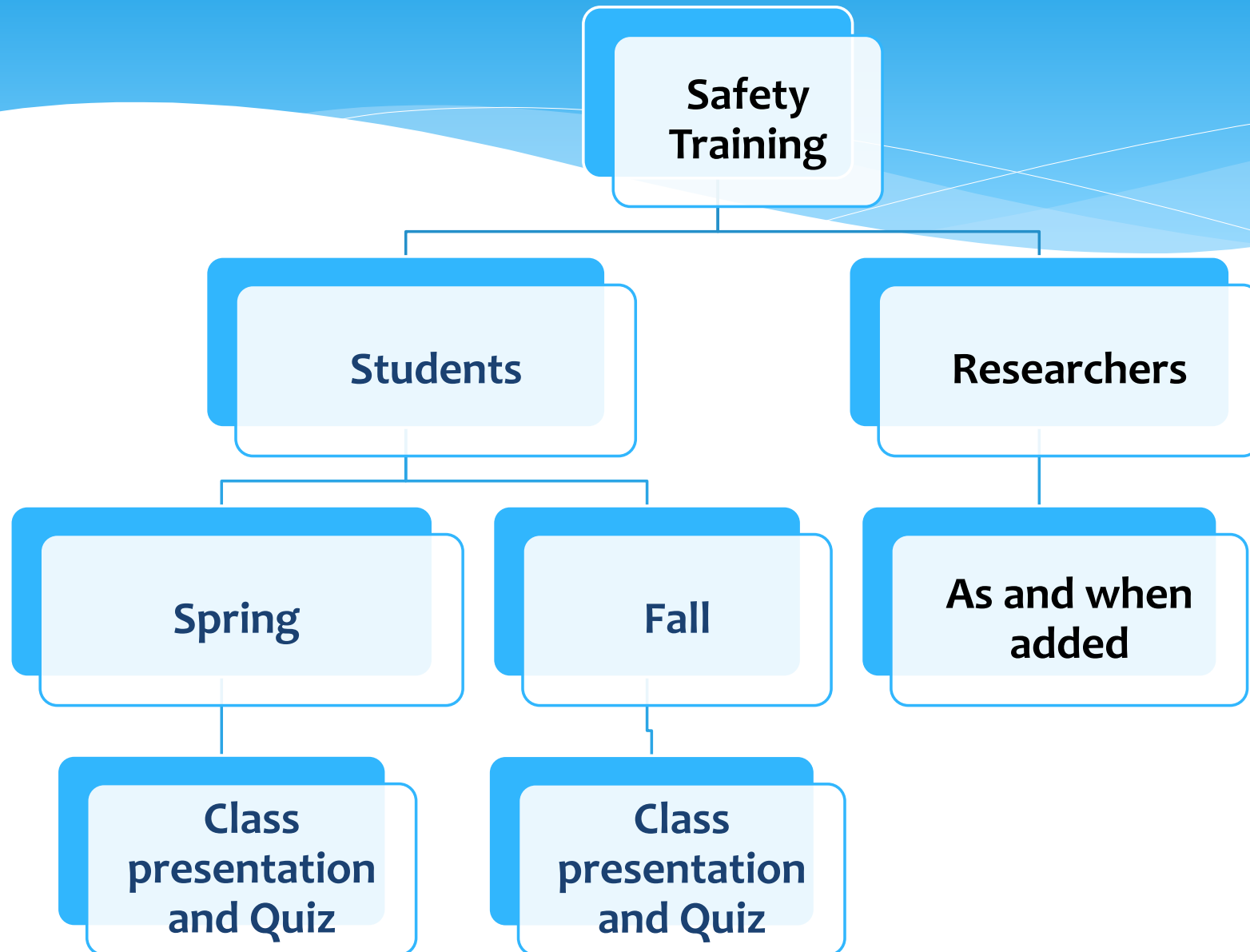
# Execution plan

- \* 1. Discussion with personnel
- 2. Design site specific program
- 3. Identifying funding source, if needed
- 4. Prioritizing
- 5. scheduling
- 6. Training





# Training Methodology



# Opportunities

## Opportunities

### Learning

Rules, changes in regulations;  
classifications etc

### Professional development

Workshops, seminars, training

### Prevention of accidents

Ability to identify potential accidents;  
understanding protocols

### Mentoring

Mentor junior staff and research  
personnel

### Training

Train students on lab safety

# Rewards



# Rewards

## Rewards Earned

**CHO Course** from Lab Safety Institute

Certified Environmental Scientist from **NREP**

30 **ChemE undergraduate Students** completed 5PDH SChE Safety course

LSI offering **National Awards** for the best lab safety program

# Conclusions

- There is **no one size fits all** model that works
- Design of **Independent safety program** was necessary
- **Cooperation** between PI, Researcher and the EHS officer is extremely important
- In the beginning, **challenges seemed to outweigh the rewards**, but at the end it pays off
- There is a great **opportunity for learning** and development
- **Consistency** is extremely **important**

# Acknowledgement



## Howard University:

- College of Engineering and Architecture, **CEA**
- Department of **Environmental Health & Safety**
- Office for Research and Regulatory Compliance, **ORRC**
- Department of Civil & Environmental Engineering