Cultivating a Culture of Safety in Undergraduate Chemistry Labs at UNC Chapel Hill

Kathleen Nevins, Instructor and Supervisor of Undergraduate Laboratories
Annual Student Lab Enrollment at UNC Chapel Hill

- At UNC: ~30,000 students
- Enrolled in Undergraduate Labs: ~5,000 students/year
- 26 course offerings/year with 263 sections
Why Create a Culture of Safety with Undergraduate Students

- The University of North Carolina at Chapel Hill Chemistry Department is committed to teaching and fostering a Culture of Safety.

- This starts with the first undergraduate course in Chemistry and continues throughout the entire educational process to PhD.
How Do We Create a Culture of Safety

• Lab faculty and staff

• Chemistry teaching assistants (TA)

• Chemistry Lab Students

https://www.genesisproject1.com/training/
Who are we?

Nita Eskew, PhD
Director of Undergraduate Labs

Kathleen Nevins, PhD
Instructor/Supervisor of Undergraduate Labs

Maribel Borger, PhD
Instructor/Supervisor of Undergraduate Labs

Calvin Grant, PhD
Instructor/Supervisor of Undergraduate Labs

Tyler Motley, PhD
Instructor/Supervisor of Undergraduate Labs
TA Training

Approximately 70 TA’s per semester

Typical TA Training Agenda:

– EHS in house training
  • Fire extinguisher
  • Chemical hygiene and safety

– Counseling and Psychological Services

– Active shooter

– TA guidelines and contract

– Course specific training

– Hands-on experimental training
Student Training

- Lab Safety
- Safety quiz
- Lab manual
- Lab Safety Contract
- Regular reinforcement
PPE and Waste Handling

**EYE PROTECTION**

- Safety goggles
- Safety glasses

**WASTE DISPOSAL**

All *organic* waste should be placed in the designated waste container in the hood.
Student Lab Manual

- Use of highlighted safety boxes throughout manual
- Identification of required safety equipment and how to obtain SDS information
Tracking and Minimizing Accidents

• Internal accident forms completed by TA and submitted to Supervisor.
• Forms are posted on Sakai so all TAs and EHS can review and be aware of incident.
• Modifications are made as necessary to prevent future safety incidents
• EHS performs further investigation if warranted.
Summary

• Work closely with EHS to train everyone who is involved in lab courses
• Start during freshman year and continue to reinforce safety throughout their education.
• Creating and maintaining a safety culture in the undergraduate labs allows for students to develop good safety practices early that they can carry with them in their careers.