39e Safety Taught as an Integral Part of the University Unit Operation Laboratory Experience

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University Unit Operation Laboratories allow students to gain hands-on experience with equipment and processes that intend to cement the theoretical foundations explored in the undergraduate heat, mass, and momentum classes. These units vary in size from bench top units to those of a scale seen in industrial pilot plants. Safe operation in such university laboratories require an instructional approach that combines a traditional "rules list" with activities that reinforce safety awareness. Frequently the students are exposed to operations larger than bench top size for the first time in unit operations labs. This requires a comprehensive plan to deal with the associated hazards, ensure the safety of the students, and instill a safe operation mindset within the student that will serve them throughout their career.

This presentation will discuss The Ohio State University Department of Chemical & Biomolecular Engineering approach to safety instruction using the following general outline:

- Introduction and articulation of unit operation lab safety "rules"
- Introduction to OSHA safety regulations
- Fire extinguisher training
- Required safety review quiz prior to unit start-up
- Perform a team safety audit of a completed lab unit

This presentation will discuss how these items fit into the overall course design. It will point to where the Department of Chemical & Biomolecular Engineering has had success with raising the student awareness of what constitutes safe operations.