

# HVAC SYSTEM & LABORATORY DESIGN



*"Fume hoods and biosafety cabinets are the primary means of controlling hazardous exposures to laboratory personnel. Understanding the design process and how to evaluate laboratory HVAC systems is key to providing a healthy environment." - Pam Greenley (Lead Instructor)*

## **Course Description:**

This two-day introduction to the design and evaluation of laboratory HVAC systems combines lecture, class discussion, hands-on laboratory work, and group activities. Topics include: basic airflow principles; ventilation equipment exhaust requirements; OSHA, ANSI, ASHRAE and NFPA regulations; fume hood testing and laboratory controls. Real life laboratory construction and renovations are used as examples throughout the course. All course concepts come together in an activity in which participants learn the critical questions to ask when reviewing mechanical drawings.

## **Participants Will Learn:**

- Basic ventilation elements, terms and equations
- Basic principles of lab ventilation control
- The role of pressure relationships in lab design
- Types and sources of pressure losses in exhaust systems
- The key elements of building exhaust and stack design
- How OSHA, ANSI, ASHRAE, and NFPA regulations impact lab HVAC design
- Design requirements for fume hoods and BSCs
- Uses for various airflow measuring instruments
- How to take airflow and ventilation measurements
- How to conduct a fume hood survey

- Steps in the lab design process
- How to read mechanical drawings
- Questions to ask when reviewing mechanical drawings

## **This Course is For:**

Design engineers, architects, certifiers, industrial hygienists, safety officers, and facility engineers

## **Instructor Team:**

The lead instructor for this program is **Pam Greenley, CIH**, Consultant. Other instructors include: **Larry McCarthy**, Product Design Engineer, Baker; **Jeff Puleo**, AIA, LEED AP, Senior Architect, Science Planner, HGA.

## **Registration:**

Tuition of \$1295 must be paid in full to guarantee a space in the class. Tuition includes: course manual, lunch each day, an Eagleson Institute certificate and a special class reception with plenty of time to network with peers and instructors.

**Register online at [www.eagleson.org/HVAC](http://www.eagleson.org/HVAC) or call (207) 490-1076 to register or request a registration form.**