

EAGLESON INSTITUTE

Promoting Laboratory Safety Globally Since 1989

PO Box 954, Sanford, ME 04073 | 207-490-1076 | www.eagleson.org

HVAC Systems and Laboratory Design

Learn how to evaluate laboratory HVAC systems

When & Where

May 9-10, 2013 | Sanford ME

November 7-8, 2013 | Sanford ME

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
- How the fan laws relate to fan sizing
- 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

Instructors

The lead instructor is **Pam Greenley**, CIH, Associate Director, Environmental Health and Safety, Massachusetts Institute of Technology. Other Instructors include: **William Freeman**, PE, LEED AP BD+C, Principal, Collaborative Engineering Solutions; **Larry McCarthy**, Product Design Engineer, The Baker Company



Highlights

"Laboratory 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 laboratory environment."
- Pam Greenley (Lead Instructor)

Companion Courses

The following courses can be taken the same week in conjunction with this course:

- **Safety Cabinet Technology**
May 6-7, 2013 | Nov 4-5, 2013
- **Introduction to Certification**
May 8, 2013 | Nov 6, 2013
- **ASHRAE 110 Testing Workshop**
May 8, 2013 | Nov 6, 2013

Registration

Tuition of \$895 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 and dinner with plenty of time to network with peers and instructors.

Register online at www.eagleson.org/HVAC, or call (207) 490-1076 to register or request a registration form.

for more information
or to register, please visit
eagleson.org/HVAC



HVAC Systems and Lab Design

Agenda

DAY ONE

- Basic Ventilation Concepts
- Ventilation Equipment
- Workshops
 - Fume Hood Survey on VAV Hood ASHRAE Test
 - Pitot Traverse
 - System Pressure Gradient
- Safe Use of Chemical Fume Hoods DVD

DAY TWO


- Laboratory Controls Lecture and Demonstration
- Regulations
- The Design Process
- Activity: Unraveling The Mystery Behind HVAC Mechanical Drawings

Local Information


AIRPORTS

-  PWM | Portland International Jetport
31 Miles North East • www.portlandjetport.org
-  MHT | Manchester Boston Regional Airport
76 Miles South West • www.flymanchester.com
-  BOS | Logan International Airport
83 Miles South • www.massport.com

DIRECTIONS

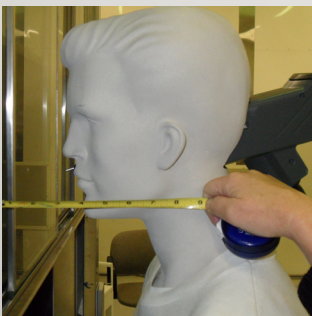
-  We recommend renting a vehicle, as the class location is approximately 15 miles from the hotel. Our physical address is 161-175 Gatehouse Road, Sanford, ME 04073. Directions via Google: <http://g.co/maps/p4ud3>

LODGING

-  May 9-10, 2013 | Kennebunkport Inn | \$77*
(207) 967-2621 | www.kennebunkportinn.com
- November 7-8, 2013 | Kennebunkport Inn | \$76*
(207) 967-2621 | www.kennebunkportinn.com
- * Reservations must be made by the attendee. Be sure to mention the Eagleson Institute to secure the special group rate.

Cancellation Policy

Individuals who cancel more than 15 business days prior to the class date will receive a full refund. For cancellations made 6 to 15 business days before the start of the program, a 50% refund will be given. For cancellations made 5 business days or less prior to the class date, no refunds will be given. Notification of cancellation must be received in writing. Substitutes for a registered attendee may be made at anytime.



for more information or to register, please visit

www.eagleson.org/HVAC

