

**AIA Ventilation Training**  
Course Syllabus & Outline

**Course Details:**

**Contact Hours: 1**

**Class Format/Location:** On-site workshops taught by Panasonic representatives

**Instructor:** Bret Gundersen

**Course Description:**

This workshop has been developed to give an overview on ventilation codes and practices, specifically ASHRAE 62.2. As the most recognized ventilation code, ASHRAE 62.2 has been adopted in State Building Codes and in many Green Building programs.

**Course Learning Objectives:**

- Identify the role of mechanical ventilation in relation to today's homes
- Identify the different types of ventilation methods and their advantages.
- Learn how to properly size ventilation systems using ASHRAE 62.2
- Describe key design and installation requirements for effective ventilation systems

**Student Learning Outcomes:**

At the conclusion of this course, each student will be able to:

- Compute the proper size of a ventilation system in a residence given the square footage and number of occupants
- Evaluate a residential ventilation system for ways that installation can degrade the effectiveness of the system when reading plans or inspecting a home
- Specify the application of building standards, including ASHRAE, Energy Star, and LEED, or their use in evaluating products and planning installations
- Utilize intermittent and continuous forms of ventilation to provide comfort and efficiency throughout a home

**Evaluation/Grading:** Pass/No Pass. Participants will have the opportunity to receive feedback on their progress in the workshop. There will be opportunities for discussion and participatory activities throughout the course.

## Course Outline:

### **1. Introduction**

- a. Overview of learning objectives

### **2. Why to Ventilate**

- a. Changes in building styles that require modern ventilation
- b. Proper ventilation energy savings

### **3. Terminology & Technology**

- a. Research that supports the importance of mechanical ventilation
- b. Explore the product scope.
- c. Definition of CFM, sone, and static pressure
- d. Three common mechanical ventilation types and their advantages
- e. Identify the types of devices that can be a part of a residential ventilation installation
- f. Participant activity: Identify the advantages and design considerations of the different types of systems
- g. Advantages and design considerations of a balanced ventilation system
- h. Advantages and design considerations of a continuous exhaust ventilation system
- i. Advantages and design considerations of a continuous supply ventilation system
- j. Installation decisions based on the climate zone.

### **4. Standards and Research**

- a. Review different organizations that offer standards and guidelines for mechanical ventilation
- b. Home Ventilating Institute and demonstrate HVI's role in specifying products
- c. American Society of Heating, Refrigeration, and Air Conditioning, or ASHRAE
- d. Green building and energy conscious building organizations address mechanical ventilation

### **5. Sizing & Installation**

- a. How to size an installation and identify best practices for implementing residential ventilation
- b. How to compute the ASHRAE 62.2-2007 and 2010 standards
- c. Apply the local ventilation requirements to a house
- d. Demonstrate the second method of computing whole house ventilation
- e. Kitchen and bathroom minimum exhaust flow rate
- f. Ventilation impact on heating and cooling loads
- g. Reducing Static Pressure
- h. Importance of outside terminations
- i. Placement of exterior vents