



BOC Level I Course Descriptions – All Courses Required

BOC 101 - Building Systems Overview

Provides overview of preventive maintenance, energy efficiency principles, and fundamentals of building systems, equipment, and operations. Reviews heating, cooling, ventilation and control systems, water, lighting, and indoor air quality. Covers system interaction and relationship to overall building performance. Provides foundation for Level I certification courses. Participants can expect to learn how to begin to assess their own facilities with respect to energy conservation and are required to complete a project that will begin the process to more energy-efficient management at their own facilities. One day.

Project: Facility and Equipment Floor Plan

BOC 102 - Energy Conservation Techniques

Helps operators gain a better understanding of how energy is used in commercial buildings and how to identify and prioritize conservation opportunities. Includes basic principles of energy accounting, evaluation of fuel options, operation and maintenance strategies to improve efficiency, and energy management planning techniques. Participants will learn how to perform quantifiable evaluations of their facilities' energy use in order to be able to target prospects for energy conservation. One day.

Project: Energy Use Profile

BOC 103 - HVAC Systems and Controls (2-Day)

Focuses on operation and maintenance of equipment and components typically found in commercial buildings, including central heating, cooling, air and ventilating systems in buildings. Provides introduction to automatic control systems and equipment, particularly for central air systems. Emphasis placed on group problem solving and exercises with respect to preventive maintenance. Participants will learn to target possible inefficiencies in their HVAC systems and to be able to evaluate potential solutions. Two day.

Project: Heating System Operational Review

BOC 104 - Efficient Lighting Fundamentals

Covers lighting fundamentals and types of lighting for economical and energy efficient lighting systems. Participants learn principles of efficient lighting including evaluation of lighting levels, quality and maintenance. Other topics include lighting fixture and control technologies, common upgrades, retrofit and redesign options, and management strategies as they apply to space use and function. One day.

Project: Lighting Survey for Facility

BOC 105: Operation & Maintenance Practices for Sustainable Buildings.

Provides an overview of best O&M practices for green or high performance buildings and addresses exterior site issues, water efficiency, cleaning products, material and supply purchasing, energy, and indoor environmental quality. National green building rating systems such as LEED™ and tools through ENERGY STAR® for evaluating the sustainability of the existing buildings are also explored. Participants will learn to identify and apply O&M practices for improving the performance of both existing buildings and newly-designed green buildings. One day.

BOC 106 - Indoor Air Quality

Introduces the basic causes of indoor air quality problems and begins to develop a method of diagnosis and solution. Students will gain an understanding of the dynamic components of indoor air quality in relation to source control, occupant sensitivity and ventilation. Emphasis will be placed on communications with building occupants for reliable investigations without aggravating existing issues.

BOC 107 - Facility Electrical Systems

Develops an understanding of how electricity is distributed in a facility. Participants will learn the fundamentals of electricity and its application to the workplace with the goal of highlighting and working to resolve common electrical distribution problems.

Project: Electrical Distribution Sketch for Facility