



# International Union of Operating Engineers

AFFILIATED WITH THE AMERICAN FEDERATION OF LABOR AND CONGRESS OF INDUSTRIAL ORGANIZATIONS

## Training Course Schedule

### Courses from May 8, 2024 - July 7, 2024

#### Course - Session

#### Date(s)

Basic Controls and Building Automation Systems

Jun 8, 2024 - Jun 10, 2024

Visit <https://iuoe-itrs.org> for a Full Schedule and to Register for Classes

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## Training Course Schedule

### Training Course Descriptions

## BASIC CONTROLS AND BUILDING AUTOMATION SYSTEMS

### BASIC CONTROLS& BUILDING AUTOMATION SYSTEMS

This course has been developed for individuals who want to take the mystery out of the understanding of how DDC controls and Building Automation Systems operate, and also the insight of the various related software packages that drive these systems and how they manipulate these systems.

This seminar has also been designed for people not familiar DDC controls and Building Automation Systems. There will be lectures on basic control strategies, the basics of DDC hardware, and also the basic understanding of building optimization for curtailing the use of energy.

For the experienced people there will be discussions on advanced control technologies dealing with the architecture of Building Automation Systems, discussing how they are installed, wired, and then programmed. Also, there will be main topic lectures on DDC Main Controllers, Stand alone controllers, and there communication protocols.

After the completion of this seminar the participants will be able to:

- Understand the basic DDC and Analog control technology for the HVAC field
- Describe the different types of control actions and when to use them
- Identify Building Automation System main components and where they are used
- Define and select the proper Automation System for different locations
- Ascertain how Building Automation Systems Operate to maintain human comfort
- Define the different types of Analog and Binary inputs and outputs
- Understand the system wiring though various schematic diagrams of installed systems
- Comprehend the different type of operator interfaces and how they communicate
- Define criteria for control strategies such as with closed loop control
- Describe control strategies and how buildings are optimized for peak efficiency
- Understand how a PID loop is written and how to tweak it in for the maximum performance
- Define the different types of programming method

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