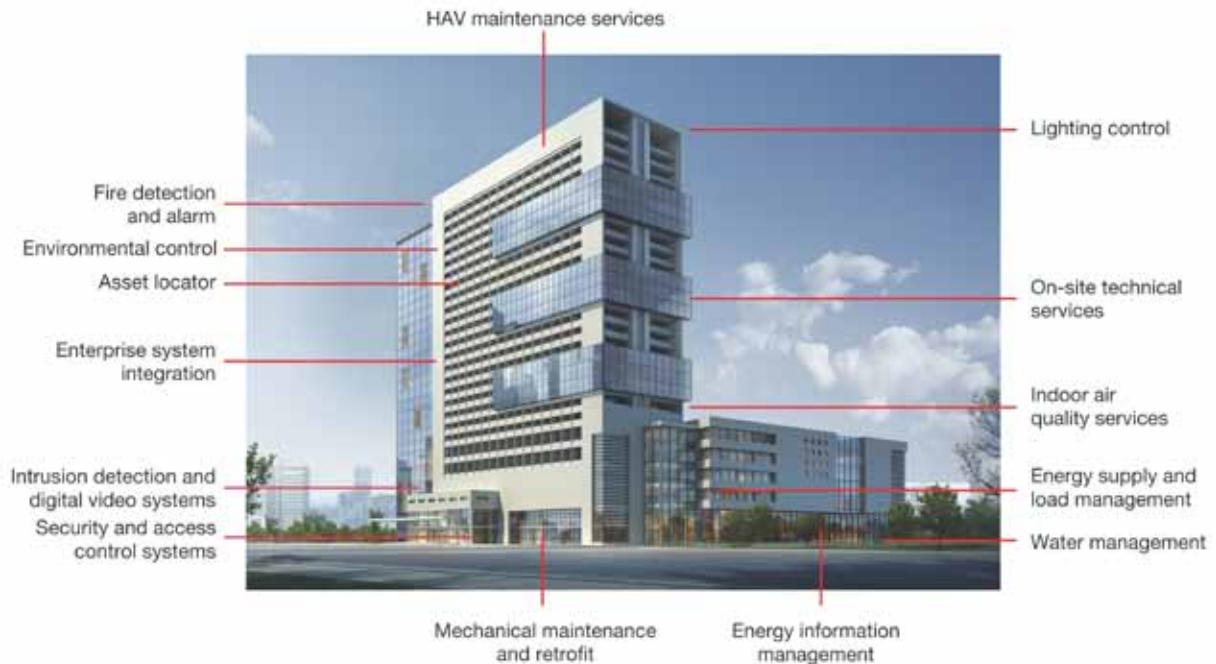


BUILDING AUTOMATION SYSTEMS TRAINING



February 16-17, 2016 San Francisco, CA
February 18-19, 2016 Los Angeles, CA
February 22-23, 2016 San Diego, CA

THIS NEW COURSE COMPLIES WITH CALIFORNIA GREEN BUILDING STANDARDS AND CODES!!

BONUS FEATURES

- 100-Page UPS Digital Handbook
- \$100 Coupon Toward any Future 2016-17 EFTI Course
- FREE Intelligent Power Today Digital Magazine Subscription
- Course Presentation Materials in Paper Format
- Refreshments, Lunch Provided

2-DAY COURSE
\$699

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BUILDING AUTOMATION SYSTEMS TRAINING

THIS NEW COURSE COMPLIES WITH CALIFORNIA GREEN BUILDING STANDARDS AND CODES!!

Our Building Automation Training course is designed to assist organizations to identify opportunities for retrofitting existing building control systems and power and communication networks or to design BAS systems into new building designs.

Building automation is the automatic centralized control of a building's HVAC, lighting and communications systems (such as fire alarm and life safety systems and building security systems, through a Building Management System (BMS) or Building Automation System (BAS). The objectives of building automation are improved comfort, energy management, efficient operation of building systems, and a reduction in water consumption and waste water. A robust BAS design can include the integration with renewable energy and energy storage systems.

Almost all multi-story, green buildings are designed to accommodate a BAS for the energy, air and water conservation characteristics. Electrical equipment demand response is a typical function of a BAS, as well as more sophisticated HVAC monitoring required from "tight", insulated buildings.

This two-day, real-world-based Building Automation Training course will give you a broad introduction to the specific issues involved with Building Automation Systems (BAS). Students will explore the processes that occur at every level in the air conditioning industry, including digital controls.

Learn about sensing and measurement, actuation, analog output devices, and relays.

Computer interfaces are discussed including web interfaces. Your survey of the world of BAS includes: Future of BAS, Digital Direct Control (DDC) Basics, Field Devices, the Human Machine Interface (HMI), BAS Design and Specification, Energy Conservation Control Strategies, and System Maintenance.

This Building Automation Training course will enable you to identify and describe the major components in a BAS along with the basic mechanical components and controls in an HVAC control system.

You will be able to describe and explain the basic functions of DDC systems and HMI basics, reference codes and standards applicable to BAS, and justify control components for project work.

This Building Automation Training course will help you explain BAS in non-ATC systems (lighting, fire, security, etc.), the process of implementing BAS, and Energy Conservation Control Strategies. You will also learn where to look for additional resources.

THIS BUILDING AUTOMATION TRAINING COURSE WILL TEACH YOU HOW TO:

- Identify and describe the major components in a BAS
- Identify and describe the basic mechanical components and controls in an HVAC control system
- Describe and explain the basic functions of DDC systems
- Reference codes and standards applicable to BAS
- Describe and explain HMI basics
- Explain BAS in non-ATC systems (lighting, fire, security, etc.)
- Explain the process of implementing BAS
- Explain Energy Conservation Strategies
- Justify control components for project work
- Identify where to look for additional references
- Describe the major components in a BAS

Building Automation Overview:

- What is Building Automation
- Delivery of BAS
- BAS Applications

Building HVAC Basics

- Space Condition Controls
- Air Handler Controls
- Central Utilities
- Non-ATC Systems
- Energy Conservation Control Strategies
- BAS System Solutions

DDC Basics | Field Devices

BAS System Delivery:

- Design and Specification
- Project Engineering
- Application Development
- Implementation
- Maintenance

The Human Machine Interface (HMI) Applications:

- ASHRAE Defined
- Basic HMI
- Small Facility HMI
- Large Facility HMI

WHO SHOULD ATTEND

Industrial, Commercial, Institutional Electrical Engineers, Consulting Electrical Engineers, Building Electricians, Instrumentation Mechanics, Building Technicians, Building and Property Managers & Energy Management Professionals

complete course details:
www.electricityforum.com/usa/bas.html

BUILDING AUTOMATION SYSTEMS TRAINING

AGENDA - DAY 1

TYPES OF BUILDING AUTOMATION AND CONTROL SYSTEMS

Building Automation and Systems (BAS)
Building Control System (BCS)
Building Management System (BMS)
Direct Digital Control (DDC)
Energy Management and Control Systems (EMCS)
APPLICABLE BAS AND BMS STANDARDS

OVERVIEW OF A BAS/BMS SYSTEM

TODAY'S BAS TRENDS

GREEN ENERGY SAVING BUILDINGS

BENEFITS OF BUILDING AUTOMATION SYSTEMS

- Energy Savings
- Environmental Impact
- Improved Security
- DVR and CCTV Systems interaction
- Interaction with Life Safety Systems and Fire Protection
- Building Maintenance using BAS / BMS
- Operator Convenience
- Power monitoring
- Security
- Close circuit video (CCTV)
- Card and keypad access
- Elevator/escalator control
- Plumbing and water/waste water management

BLOCK DIAGRAM OF A BAS/BMS

- BAS System Delivery
- Design and Specification
- Project Engineering
- Application Development of custom made application
- Implementation of a specific application
- Maintaining a BAS System

BAS INTEGRATION

- Space Condition Controls
- Air Handler Controls
- Air Handling Units (AHUs)
- Roof-top Units (RTUs)
- Fan Coil Units (FCUs)
- Heat Pump Units (HPUs)
- Variable Air Volume boxes (VAVs)

BAS STRATEGIES FOR ENERGY CONSUMPTION

- Chillers Control
- Boilers Control and Backup
- Lighting control
- Typical Process Close Loop Control
- Lighting control
- Central Utilities
- Energy Conservation
- Water Conservation
- Water leak Detection

AGENDA - DAY 2

BAS SYSTEM SOLUTIONS

- DDC Basics-Direct Digital Control
- Field Devices and regulation
- Local Control and Field devices
- The Human Machine Interface (HMI) Applications:
- ASHRAE Defined
- Basic HMI
- Small Facility HMI
- Large Facility HMI
- Wired and Wireless Communication
- Modbus
- Profibus
- Control Net
- Device Net
- Industrial Ethernet
- LAN Builder
- Open Architecture Networks

BAS SYSTEM INTERACTION

- DVR and CCTV Systems interaction
- Interaction with Life Safety Systems and Fire Protection

BUILDING MAINTENANCE USING BAS/BMS

BAS CASE STUDIES:

- Typical Installation of a BAS, requirements for practical implementation
- Retrofitting an old BAS, from Analog to Digital Implementation
- Demonstration of a Building Automation Implementation based on Rockwell Technology
- Typical BAS for an Industrial Facility
- Typical implementation of a BAS for residential large buildings

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REGISTRATION FEES

The registration fee to attend the 2-day Building Automation Training course is \$699.00. The registration fee includes: all course materials, a free magazine subscription to Intelligent Power Today Industrial Power Systems magazine, a \$100 coupon towards any future 2016-17 Electricity Forum event (restrictions apply). Refreshments and Lunch included.

WHEN & WHERE

(Please check the date/location where you want to attend the course)

2-DAY BUILDING AUTOMATION SYSTEMS TRAINING

San Francisco, CA - February 16-17, 2016

BEST WESTERN PLUS Grosvenor Hotel
380 South Airport Boulevard
South San Francisco, CA 94080
Tel: 650-873-3202

Los Angeles, CA - February 18-19, 2016

Four Points by Sheraton Airport Hotel
9750 Airport Blvd
Los Angeles, CA 90045
Tel: 310-645-4600

San Diego, CA - February 22-23, 2016

Hampton Inn San Diego Downtown
1531 Pacific Highway
San Diego, CA 92101

CANCELLATION AND REFUND POLICY

Registration fees are refundable only upon receipt of written notification 10 days prior to the conference date, less a 10 per cent service charge. Substitution of participants is permissible.

The Electricity Forum reserves the right to cancel any conference it deems necessary and will, in such event, make a full refund of the registration fees.

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