Training Catalog

Simplex Products
North America

Training options to meet your needs.

The power behind your mission

June 2021, Rev. C
# Content

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SECTION 1 - INTRODUCTION
Overview
Get trained on JCI’s latest innovations and improve your proficiency with our comprehensive training portfolio! With versatile training solutions and best practices from our expert instructors and designers, you ensure excellent installation, operation, and maintenance throughout the product and system lifecycle.

Choose from individual online courses or enroll in a comprehensive certification path to obtain a mix of eLearning, virtual, and classroom training.

Policies and Requirements

Cancellation and Rescheduling
JCI reserves the right to change or cancel classes up to 10 business days prior to the class start date. You will be notified at that time of such change or cancellation.

Travel and Living
Refer to your local office for the current JCI travel policies before scheduling your training visit.

Professionalism
Students are expected to maintain professional conduct and dress at all times. Class dress is casual, but smart. For safety and security reasons, we cannot permit shorts, sandals, or tank tops in the classroom. Consult current JCI dress codes for more information.

Laptop Requirements
Some of our classes may require students to bring their laptops to the classroom so that they may utilize an electronic copy of the class material and execute tasks on required software. Please review your enrollment confirmation email for specific requirements for your class.

Training Content and Disclaimer
All of JCI’s product training classes are designed to support and align with the JCI strategy for each product. This strategy may include a combination of (but not limited to) processes, procedures, recommendations, and instructor experiential advice. This information may vary from product to product. Codes and AHJ interpretation may vary by geographical area. Please consult with your local AHJ. JCI product training reserves the right to change the structure and content of all courses at any time. Consult the LMS for latest course offerings.
Training Types

There are three training types shown in this catalog. The symbols and definition for each are shown in the table below:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Symbol" /></td>
<td>This symbol indicates Instructor-Led Training (ILT) that takes place in one of our training centers or remotely in a designated training area.</td>
</tr>
<tr>
<td><img src="image2" alt="Symbol" /></td>
<td>This symbol indicates a Virtual Instructor-Led Training (VILT) where an instructor leads the class via video conferencing.</td>
</tr>
<tr>
<td><img src="image3" alt="Symbol" /></td>
<td>This symbol indicates a self-paced learning module that you would access via a Learning Management System (LMS) or other electronic delivery method.</td>
</tr>
</tbody>
</table>

How to Register for Training

Registering for classes listed in this catalog is simple and easy. Just log on to the JCI Learning Network using your employee ID and password, search for the class you want (listed later in this catalog) and register (Link to JCI Learning Network). Refer to the “How to Register” brochures available upon request by contacting us (refer to the Contact Us section of this catalog).
Training Classroom Locations

Instructor Led Training (ILT) for technicians may be conducted in our fully equipped training centers or remotely at your location. Our classrooms are designed so that each student is provided with their own workstation to execute the course tasks.

Our classrooms are located at the locations shown in the map below.
Contact Us

Our LMS is your portal to finding the courses to meet your unique needs. Keep up to date with the latest training news and download videos and documents to find information on lodging and directions to our training centers. You can also contact our operations staff using the information below.

Training Support: NAFDTraining@jci.com

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SECTION 2 – TRAINING FOR TECHNICIANS
Technical Training Certification Paths

The graphic below shows the learning paths that lead to factory certifications for Simplex products. The paths indicate training for the entire ES product line. Consult with your manager for information on the most appropriate certification level for your job.

ES Panels Certification Path

**Start your Certification Journey with the 4007ES eLearning (FA201).**

<table>
<thead>
<tr>
<th>Step</th>
<th>Certification Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4007ES Hardware Certification</td>
</tr>
<tr>
<td>2</td>
<td>4007ES/4010ES Hardware and Programming Certification</td>
</tr>
<tr>
<td>OR</td>
<td>4007ES/4010ES FA205V</td>
</tr>
<tr>
<td>3</td>
<td>4100ES Service Certification</td>
</tr>
</tbody>
</table>

Fire Alarm Network Certification Path

<table>
<thead>
<tr>
<th>Step</th>
<th>Certification Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4100ES Service Certification</td>
</tr>
<tr>
<td>OR</td>
<td>ESNet Service Certification</td>
</tr>
<tr>
<td>2</td>
<td>ES Net FA050</td>
</tr>
<tr>
<td>3</td>
<td>ES Net FA050V</td>
</tr>
<tr>
<td>OR</td>
<td>4120 Network Service Certification</td>
</tr>
<tr>
<td>4</td>
<td>4120 FA049</td>
</tr>
<tr>
<td>OR</td>
<td>4120 FA049V</td>
</tr>
</tbody>
</table>

**Continue your journey after becoming certified on the 4100ES Panel.**

<table>
<thead>
<tr>
<th>Step</th>
<th>Certification Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ES Net 1.2 Fire Alarm Network Technician eLearning</td>
</tr>
<tr>
<td>2</td>
<td>ES Net Operational Concepts and Hardware Installation</td>
</tr>
<tr>
<td>3</td>
<td>ES Net Programming</td>
</tr>
<tr>
<td>4</td>
<td>ES Net Diagnostics</td>
</tr>
<tr>
<td>5</td>
<td>TSW on ES Net Networks</td>
</tr>
</tbody>
</table>

**OR**

<table>
<thead>
<tr>
<th>Step</th>
<th>Certification Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ES Net w/TSW Service Certification</td>
</tr>
<tr>
<td>2</td>
<td>ES Net FA169 (Optional)</td>
</tr>
<tr>
<td>3</td>
<td>ES Net FA170 (Optional)</td>
</tr>
</tbody>
</table>
Courses for Technicians

This section describes each of the courses intended for the technician audience.

**Simplex 4007ES Fire Alarm System – Service**
Course No. FA201

<table>
<thead>
<tr>
<th>Course Duration</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Hours</td>
<td>None</td>
</tr>
<tr>
<td>CEU: 0.2</td>
<td></td>
</tr>
</tbody>
</table>

This eLearning course will enable you to differentiate between the hybrid and addressable version of the Simplex 4007ES fire alarm control panel. You will also be able to perform functions such as acknowledge alarms, silence piezos, manually override points and troubleshoot earth faults on a 4007ES panel. NFPA 72 Service Certification is awarded at the successful completion of the course.

**Simplex 4007ES/4010ES Fire Alarm System**
Course No. FA205

<table>
<thead>
<tr>
<th>Course Duration</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Days, 5 Hours</td>
<td>FA201</td>
</tr>
<tr>
<td>CEU: 2.2</td>
<td></td>
</tr>
</tbody>
</table>

This hands-on course enables students to perform critical tasks required of Commissioning and Break-Fix Technicians while working on the 4007ES and 4010ES Fire Alarm Control Panels. Students learn how to install, operate, and program a general alarm system on both panels. They use the 4007ES and 4010ES front panel interfaces and ES Programmer to perform several basic programming, reporting, diagnostic, and troubleshooting tasks. Other course modules focus on addressable initiating device circuits (IDNet), addressable notification appliance circuits (IDNAC), LCD Annunciators, and additional peripheral devices.
Simplex 4007ES/4010ES Fire Alarm System - Virtual Course No. FA205V

This hands-on course enables students to perform critical tasks required of Commissioning and Break-Fix Technicians while working on the 4007ES and 4010ES Fire Alarm Control Panels. Students learn how to install, operate, and program a general alarm system on both panels. They use the 4007ES and 4010ES front panel interfaces and ES Programmer to perform several basic programming, reporting, diagnostic, and troubleshooting tasks. Other course modules focus on addressable initiating device circuits (IDNet), addressable notification appliance circuits (IDNAC), LCD Annunciators, and additional peripheral devices.

<table>
<thead>
<tr>
<th>Course Duration</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Days, 4 Hours</td>
<td>FA201</td>
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<tr>
<td>CEU: 2.2</td>
<td></td>
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</tbody>
</table>

Simplex 4100ES Fire Alarm System Course No. FA202

This course will enable you to perform critical tasks required of Commissioning and Break-Fix Technicians while working on Simplex 4100ES Fire Alarm Systems. You will learn how to install, configure, program, test and troubleshoot hardware and programming problems. You will also learn how to best use the productivity enhancing features designed in the 4100ES system, including TrueAlert ES / IDNAC addressable notification.

<table>
<thead>
<tr>
<th>Course Duration</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Days, 5 Hours</td>
<td>FA205 OR</td>
</tr>
<tr>
<td>CEU: 2.8</td>
<td>FA205V</td>
</tr>
</tbody>
</table>
This virtual attended classroom course will enable you to perform critical tasks required of Commissioning and Break-Fix Technicians while working on a Simplex 4100ES Fire Alarm Control Unit. Focusing on Audio, Addressable TrueAlert ES / IDNAC Addressable Speakers, Transponders, and higher-level Custom Control. You will learn fire alarm installation methodology for hardware configuration and programming, including how to best use the productivity enhancing features designed in the 4100ES system.
This course is divided into two parts:

**Part One:** enables students to create, install, program, operate, and troubleshoot a Simplex 4100 Fire Alarm Network with Network Digital Audio. This 4100 Network includes 4100ES with Audio, 4100ES Audio with Legacy hardware, Network Display Unit (NDU), and Network Voice Command Center (NVCC) fire alarm panels. Students review the process required to upgrade a GCC or IMS to a TrueSite Workstation. Additionally, this part of the course also includes an opportunity for students to experience the new ES Net.

**Part Two:** centers around a computer node, the TrueSite Workstation (TSW). Students create a TSW and learn the operation and programming required for the Remote Client feature, action messages, custom sounds, and email notifications. Additionally, students create and edit graphic screens, command buttons, and travel buttons, as well as create and link status icons to include color and shape changes.
A Windows 10 PC is required to take this course. This virtual course is divided into two parts:

**Part One:** enables students to create, install, program, operate, and troubleshoot a Simplex 4100 Fire Alarm Network with Network Digital Audio. This 4100 Network includes 4100ES with Audio, 4100ES Audio with Legacy hardware, Network Display Unit (NDU), and Network Voice Command Center (NVCC) fire alarm panels. Students review the process required to upgrade a GCC or IMS to a TrueSite Workstation. Additionally, this part of the course also includes an opportunity for students to experience the new ES Net.

**Part Two:** centers around a computer node, the TrueSite Workstation (TSW). Students create a TSW and learn the operation and programming required for the Remote Client feature, action messages, custom sounds, and email notifications. Additionally, students create and edit graphic screens, command buttons, and travel buttons, as well as create and link status icons to include color and shape changes.
ES Net 1.2 Fire Alarm Network Technician eLearning

This web-based training on the ES Net Fire Alarm Network Technician eLearning is a series of four courses that provides network trained technicians with the skills and knowledge required to achieve or maintain ES Net/TSW certification. It also provides Sales and Support personnel with ES Net/TSW information to support our customers.

The first course in this series enables you to identify and install ES Net Network hardware and interconnect nodes on an ES Net network.

The second course enables you to create an ES Net Network loop, add new nodes to the network, and to create and configure an ES Net NDU. It also enables you to add a standalone fire alarm panel to an existing network, build an ES Net Network, and back up an ES Net Network.

The third course enables you to learn about the ES Net initialization process, and to use the ES Net Diagnostics tool to gather, analyze and monitor ES Net activity and trouble conditions. It also enables you to diagnose and troubleshoot common ES Net trouble conditions.

The last course enables you to install and configure a TSW Network Interface Card, and to add and configure a TSW to an existing network. It also enables you to configure In-Control, add a TSW client to an existing network for supplemental traffic/failover and to configure Manual Evacuation.

<table>
<thead>
<tr>
<th>Course Duration</th>
<th>Prerequisite</th>
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</thead>
<tbody>
<tr>
<td>60 Minutes</td>
<td>FA049 OR FA049V</td>
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<tr>
<td>CEU: 0.1</td>
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</tbody>
</table>
This course enables the student to create, install, program, operate, and troubleshoot a Simplex ES Net Fire Alarm Network and Network Digital Audio. Providing hands-on opportunities to work with the ES Net, with an emphasis on the ES Net Diagnostic Tool software application. This ES Net includes: 4100ES with audio, 4007ES, Network Display Unit (NDU) and Network Voice Command Center (NVCC). The TrueSite Workstation is not covered in this course.

A Windows 10 PC is required to take this course. This course enables the student to create, install, program, operate, and troubleshoot a Simplex ES Net Fire Alarm Network and Network Digital Audio. Providing hands-on opportunities to work with the ES Net, with an emphasis on the ES Net Diagnostic Tool software application. This ES Net includes: 4100ES with audio, 4007ES, Network Display Unit (NDU) and Network Voice Command Center (NVCC). The TrueSite Workstation is not covered in this course.
Simplex TrueSite
Workstation on ES Net Fire
Alarm Network
Course No. FA051

This course enables the student to create a TrueSite Workstation (TSW), create and edit graphic screens, command buttons, travel buttons, action messages, and custom sounds with the TrueSite Workstation. Additionally, the students will create and link status icons to include color, shape changes, and learn the operation and programming required for the Remote Client feature. Additionally, the student will review the process required to upgrade a GCC or IMS to a TrueSite Workstation. Finally, the student will use the TSW File Transfer Utility to transfer configuration data between nodes and view network activity using the Network features of the ES Net.

Simplex TrueSite
Workstation on ES Net Fire
Alarm Network- Virtual
Course No. FA051V

This course enables the student to create a TrueSite Workstation (TSW), create and edit graphic screens, command buttons, travel buttons, action messages, and custom sounds with the TrueSite Workstation. Additionally, the students will create and link status icons to include color, shape changes, and learn the operation and programming required for the Remote Client feature. Additionally, the student will review the process required to upgrade a GCC or IMS to a TrueSite Workstation. Finally, the student will use the TSW File Transfer Utility to transfer configuration data between nodes and view network activity using the Network features of the ES Net.
Migrating a 4120 Network to an ES Net Network Course
No. FA169

This optional course enables the student to migrate a 4120 Network to an ES Net Network, resolve migration issues, and perform post-migration tasks.

Configuring and Servicing ES Net Network Synchronization
Course No. FA170

This optional training enables the network trained technician to configure and service ES Net Network Synchronization. The student will learn how network synchronization operates, how to plan for Network Synchronization, as well as how to identify and troubleshoot Network Synchronization troubles.
## Overview of ES Product Line

**Course No. FD001**

<table>
<thead>
<tr>
<th>Course Duration</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Mins.</td>
<td>None</td>
</tr>
<tr>
<td>CEU: NA</td>
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</tbody>
</table>

This course provides an overview of the ES line of Fire Alarm Control Units (FACU). You will learn how to identify the marketplace for the ES Fire Alarm Control Units and communicate the benefits of their technology.

## 4100ES Operator Training

**Course No. FD002**

<table>
<thead>
<tr>
<th>Course Duration</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Mins.</td>
<td>None</td>
</tr>
<tr>
<td>CEU: NA</td>
<td></td>
</tr>
</tbody>
</table>

In this course, you will learn 4100ES Operator Interface features, LED indications, functions of keys, and how to change system settings. You will also learn how to extract information from the system, such as historical and trouble logs, and software revision information. You will learn how to respond to different system conditions and assess the state of the Fire Alarm Control Panel.
4007ES Hardware Simulator
Course No. FD003

<table>
<thead>
<tr>
<th>Course Duration</th>
<th>Prerequisite</th>
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</thead>
<tbody>
<tr>
<td>30 Mins.</td>
<td>None</td>
</tr>
<tr>
<td>CEU: NA</td>
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</table>

This eLearning course contains an installation scenario for an 8-Point Zone/Relay Card in a 4007ES FACU. The learner will virtually install the card and required harnessing and then perform configuration tasks with the DIP Switches and Jumpers. After successfully completing these tasks, the learner is then presented with troubleshooting scenarios where they must interpret trouble messages and return the 4007ES to a normal state.
Autopulse Z-20 Product Training
Course No. AP101

This one day classroom training consists of three sessions. In the AutoPulse Z-20 General Session we will discuss:

- Touchscreen interface and operator menus
- Control unit module layout and connections
- System capacities and expansion
- Initiation, notification and release circuits and equipment
- Equipment options to meet a variety of functional requirements
- Features and benefits of addressable initiation
- Isolation options for SLC survivability
- Configuration applications (one release point and multiple release points)
- TrueAlarm Sensor technology and environmental compensation

In the AutoPulse Z-20 Designers breakout portion of the course, we will discuss:

- How to determine AutoPulse Z-20 circuit loads, wiring distances, and equipment capacities by applying your knowledge of AutoPulse Z-20 equipment
- Configuration requirements to the AutoPulse Z-20 Battery Calculation Tool.

In the AutoPulse Z-20 Technician breakout portion of the course we will discuss:

- How to use the USB drive to upload/download job files and reports.
- Addressing AutoPulse Z-20 modules (cards) and initiating devices is demonstrated and practiced.
- How to use the operator interface menus to perform essential functions, including:
  - Set the panel time and date
  - Acknowledge, silence, and reset an alarm
  - Silence the Piezo (main panel and remote annunciators)
Autopulse Z-20 System Programming
Course No. AP102

During this hands-on, 3-day course you will use AutoPulse Z-20 hardware, programming, and the operator interface to develop programming ability, equipment expertise, and technical skills. During the class, you will learn best practices as you program an AutoPulse Z-20 panel for single and multi-hazard applications. In class you will:

- Set the addresses on the system devices
- Create a job in programming
- Use the AP Programmer suppression wizard to create hazard programming
- Customize suppression programming using Custom Control.
- Install job(s) via USB and Ethernet ports
- Verify system functionality after configuration download
- Use system diagnostics menus to troubleshoot programming errors and system troubles
Autopulse Z-20 System Programming
Course No. AP102V

During this virtual, 3-day course you will use AutoPulse Z-20 hardware, programming, and the operator interface to develop programming ability, equipment expertise, and technical skills. During the class, you will learn best practices as you program an AutoPulse Z-20 panel for single and multi-hazard applications. In class you will:

- Set the addresses on the system devices
- Create a job in programming
- Use the AP Programmer suppression wizard to create hazard programming
- Customize suppression programming using Custom Control.
- Install job(s) via USB and Ethernet ports
- Verify system functionality after configuration download
- Use system diagnostics menus to troubleshoot programming errors and system troubles

<table>
<thead>
<tr>
<th>Course Duration</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Days</td>
<td>AP101</td>
</tr>
<tr>
<td>CEU: 1.8</td>
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</tbody>
</table>
SECTION 3 – FUNDAMENTALS TRAINING
Courses on Fire Alarm, Sprinkler, and Code Fundamentals

This section describes bundles of courses provided by Jensen Hughes that are focused on providing the learner with knowledge and skills in the fire alarm industry.

<table>
<thead>
<tr>
<th>Course</th>
<th>Duration</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic Sprinkler Fundamentals</td>
<td>9 Hours CEU: 0.9</td>
<td>None</td>
</tr>
</tbody>
</table>

This self-paced online training series introduces students to the basic principles of the components, application, design, installation, testing, maintenance, and use of automatic sprinkler systems. The series covers the components of the four basic types of automatic sprinkler systems and describes how these components interrelate to form a fire control or fire suppression system that will achieve a facility’s fire safety objectives for life safety, property protection, mission continuity, heritage preservation, and environmental protection. Complete all nine courses and earn .9 CEU.

These modules are included in the series:

- Automatic Sprinkler Inspection, Testing & Maintenance
- Introduction to Automatic Sprinklers and Sprinkler Heads
- Introduction to Clean Agents
- Planned Sprinkler System Impairments
- Fire Behavior - Introduction to Fire Suppression
- Authorities, Specifications and Codes & Standards
- Plan Reading and Symbols
- Sprinkler System Basics
- Occupancy and Commodity Classifications

Upon completion you should be able to:

- Outline the history of automatic sprinkler system development, explain how to prevent the main causes of automatic sprinkler system failure, and discuss the procedures for handling impairments.
- List and define the major components of a different types of sprinkler systems and understand how the components operate.

Who Will Benefit

Anyone whose job involves designing, reviewing, evaluating or installing fire protection systems, including: designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.
### Automatic Sprinkler Intermediate

This self-paced online training series introduces students to the basic principles of the components, application, design, installation, testing, maintenance, and use of automatic sprinkler systems. The series covers the components of the four basic types of automatic sprinkler systems and describes how these components interrelate to form a fire control or fire suppression system that will achieve a facility’s fire safety objectives for life safety, property protection, mission continuity, heritage preservation, and environmental protection. Complete all eight courses and earn .8 CEU.

These modules are included in the series:
- Dry-Pipe Systems
- Hydraulic Calculations
- Special Sprinkler Systems
- Water Supply Requirements
- Piping Configurations
- Sprinkler Spacing and Positioning
- Hanging and Bracing
- Seismic Protection

Upon completion you should be able to:
- Define the inspection requirements of sprinkler valves for wet-pipe, dry-pipe, deluge and preaction systems, and other types of sprinkler systems and list how often to conduct a main drain test and other tests, depending on the type of sprinkler system.
- Understand the basic principles of designing a sprinkler system and the advantages and disadvantages of the most common piping configurations.

**Who Will Benefit**
Anyone whose job involves designing, reviewing, evaluating or installing fire protection systems, including: designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.

<table>
<thead>
<tr>
<th>Course Duration</th>
<th>Prerequisite</th>
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</thead>
<tbody>
<tr>
<td>8 Hours CEU: 0.8</td>
<td>Automatic Sprinkler Fundamentals</td>
</tr>
</tbody>
</table>
This self-paced online training series covers the fundamentals of electrical installations in hazardous locations. Students who complete the series will be able to recognize areas that are likely to be classified and to select and apply wiring methods and electrical equipment in those areas. The series has been updated for the 2008 National Electrical Code. The EIHL Certificate Program serves professionals who need CEUs, want an efficient refresher, or need fundamental levels of guidance regarding hazardous locations.

Complete all eight modules and earn .8 CEU.

These modules are included in the series:

- Classification Basics
- Identifying Materials & Equipment
- Protection Method Concepts
- Class I Applications
- Sealing in Class I Areas
- Zone Classification
- Class II Wiring Methods
- Class III Areas

Upon completion you should be able to:

- Explain the difference between area classifications, the protection methods, wiring methods and equipment used in each area, and the hazards associated with each classification.
- Explain the difference between explosionproof equipment and intrinsic energy methods and define key terms, including explosionproof, nonincendive and intrinsically safe, and explain the methods of creating dust-ignitionproof enclosures.
- Understand the hazards and concerns specific combustible fibers and flyings, the special hazards of metal dust and explain why stringent housekeeping requirements are important in Class III areas.
- Explain why stringent housekeeping requirements are important in Class III areas.
- Know the methods of identifying appropriate electrical equipment for a given classified area based on the flammable or combustible materials that are present.

Who Will Benefit

Anyone whose job involves designing, reviewing, evaluating or installing fire protection systems, including: designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.
Emergency Communications Systems

This self-paced online training series covers the basics of emergency communication systems. The series focuses on introducing the learner to emergency communication systems, risk analysis concepts, and emergency planning. Complete all four modules and qualify for .4 CEU.

These modules are included in the series:
- Introduction to Emergency Communications Systems
- Module 1: Introduction to Emergency Communications Systems
  Fire Alarm System Functions
- Module 3: Emergency Planning and the Role of Risk Analysis for ECS NEC Requirements

Upon completion you should be able to:
- Discuss the history of NFPA 72 relating to ECS.
- List the types of emergency communications systems
- Describe major components of the ECS
- Identify the role of and responsibilities of a risk analysis within emergency communications systems
- Describe the role of risk analysis in Emergency Planning

Who Will Benefit
Anyone whose job involves emergency planning, including: building owners, designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.
Fire Alarm Fundamentals

This self-paced online training series covers the basics of fire alarm systems. The series focuses on the wiring requirements, circuit design, power supplies, and detector appliances outlined in NFPA 72®: National Fire Alarm Code®. Complete all nine modules and qualify for .9 CEU.

These modules are included in the series:
- Basic Circuit Design
- Basic Signal and Circuit Means
- Fire Alarm System Functions
- Heat Detectors
- Inspection, Testing, & Maintenance
- Introduction to Initiating Devices
- NEC Requirements
- Power Supplies
- Smoke Detectors

Upon completion you should be able to:
- Distinguish between the different types of alarm system functions, components, and power supplies, and smoke detectors; and, identify the NEC® requirements for fire alarm systems.
- Explain how fire alarm system signals are transmitted, list the different types of signals and describe how the integrity of the signaling system and the fire alarm system as a whole is maintained.
- List and explain the devices used to initiate signals in a fire alarm system, including manual fire alarm boxes, smoke detectors, heat detectors, flame detectors, sprinkler waterflow detectors, switches indicating actuation of fire suppression systems, valve supervisory devices, pressure supervisory devices, and level supervisory devices.

Who Will Benefit
Anyone whose job involves designing, reviewing, evaluating or installing fire protection systems, including: designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.
This self-paced online training series covers specialized fire detectors, notification appliances, signal transmission, and the various fire alarm systems as outlined in NFPA 72®, the National Fire Alarm Code®. Continue your fire alarm education with this series. Complete all eight modules and qualify for .8 CEU.

These modules are included in the series:

- Introduction to Specialized Fire Detectors
- Notification Appliances
- Supervisory Initiating Devices
- EVACS Applications
- Signal Transmission
- Auxiliary Fire Alarm Systems
- Central Station Fire Alarm Systems
- Proprietary Station Fire Alarm Systems

Upon completion you should be able to:

- Describe the role of specialized fire detectors in fire protection systems, the applications and requirements for different appliances, and the principles that underlie their operation.
- Explain the requirements for monitoring critical processes, electric fire pumps, engine driven fire pumps, dry pipe sprinkler valves and systems, pre-action sprinkler valves and systems, building temperature, water storage tanks used for fire protection, special fire suppression systems.
- Describe an EVACS, explain when an EVACS is required, and outline the elements that might be included in an EVACS system.
- Explain how various fire alarm signal transmission methods work, including McCulloh system, active multiplex, directly connected, digital alarm communications system, two-way RF multiplex systems, one-way private radio, directly connected non-coded systems, and private microwave radio systems.

Who Will Benefit
Anyone whose job involves designing, reviewing, evaluating or installing fire protection systems, including: designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.
SECTION 3 – FUNDAMENTALS TRAINING

Fire Alarm Codes, Testing, Inspection and Maintenance

This self-paced online training series covers the other codes that affect fire alarm systems, the authorities that affect fire alarm systems, fire alarm plans and code requirements and the inspection, testing, and maintenance of fire alarm systems once they are deployed. Complete all six modules and qualify for .6 CEU. These modules are included in the series:

- Authorities and Requirements
- Fire Alarm Plan and Code Requirements
- Remote Station and Protected Premises Fire Alarm Systems
- Commissioning Fire Alarm Systems
- Fire Alarm System Testing
- Fire Alarm Inspection and Maintenance

Upon completion you should be able to:

- Understand building codes, explain the purpose of the model building code and describe jurisdictional requirements.
- Define key terms, including building fire alarm system, dedicated function fire alarm system, releasing fire alarm system, initiating device circuit, signaling line circuit, notification appliance circuit, and dedicated leased line.
- List the items required for a proper fire alarm system commissioning process and explain why a thorough inspection of the system is required prior to any testing and when a fire alarm system is considered commissioned and define the owner’s responsibility for fire alarm systems.

Who Will Benefit:
Anyone whose job involves designing, reviewing, evaluating or installing fire protection systems, including: designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.
**Fire Pumps**

This self-paced online training series covers the fundamentals of fire pumps, including requirements for fire pump acceptance, inspection, testing, and maintenance. Successfully complete this series and earn 0.3 CEU.

These modules are included in the series:
- Introduction to Fire Pumps
- Periodic Fire Pump Inspection, Testing, and Maintenance
- Fire Pump Acceptance

Upon completion you should be able to:
- Explain the categories of fire pumps, the differences in water supplies, and pump capacities and components; and, define the key components of fire pumps and the types fire pump of controllers.
- List the periodic inspection, testing and maintenance requirements and explain how the responsibility and qualifications for each of these is established, including the requirements for record keeping and report generation found in NFPA 25.
- Define the requirements for fire pump acceptance testing and list the equipment needed in this process, the test points that should be measured, and the requirements for commissioning the system.

Who Will Benefit
Anyone whose job involves designing, reviewing, evaluating or installing fire protection systems, including: designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.
Firestopping

This self-paced online training series covers the essentials of firestopping, including the applicable codes and criteria, firestopping materials, system selection, installation, and firestopping inspection. Complete all five modules to qualify for .5 CEU.

These modules are included in the series:

- Module 1 - Introduction to Firestopping and Applicable Codes
- Module 2 - Firestopping Products and Materials
- Module 3 - Firestop System Selection
- Module 4 - Firestop Installation Methods and Instructions
- Module 5 - Firestopping Inspections and Safety Considerations

Upon completion you should be able to:

- Identify the purpose of fire barriers and firestopping, distinguish between active and passive fire protection, and explain the fundamental code requirements related to firestopping.
- Describe standard tests that apply to firestopping products, the ratings applied to products and how firestop systems are classified in the UL Fire Resistance Directory
- Explain how to install the components of a firestop system, including caulks and sealants, collars, pillows, putty and other products.
- Perform inspections of firestopping installations during construction and upgrade projects, and perform periodic inspections of the fire barriers and firestopping during the life of a building.

Who Will Benefit

Anyone whose job involves designing, reviewing, evaluating or installing fire protection systems, including: designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.
This self-paced online training series covers the basics of electrical systems. The series focuses on understanding wiring requirements for conductors, overcurrent devices, and circuits outlined in NFPA 70: National Electrical Code. Complete all nine modules and qualify for .9 CEU.

These modules are included in the series:
- Introduction to the NEC
- General Requirements in the NEC
- Circuit and Conductor Types
- Load Calculations
- Wiring Methods and Devices
- Required Outlets
- Conductor Selection and Application
- Overcurrent Protection for Conductors and Equipment
- Grounding and Bonding

Upon completion you should be able to:
- Understand the organization and structure of the Code, and the general requirements of an electrical system.
- Explain how the load of a system is calculated and how conductors are selected.
- List and explain the devices used for means of overcurrent protection and where they must be placed in a system.

Who Will Benefit
Anyone whose job involves designing, reviewing, evaluating or installing electrical systems, including: designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.
NEC Low Voltage Circuits

This self-paced online training series examines low voltage circuits as well as outlines Chapter 7 and 8 in NFPA 70: National Electrical Code. Complete all three courses and earn .3 CEU.

These modules are included in the series:
- Remote Control & Signaling
- Special Conditions in the NEC Chapter 7
- Optical Fiber & Communications

Upon completion you should be able to:
- Distinguish between Articles 700, 701 and 702 that address testing and maintenance, capacity requirements, transfer equipment, signals, signs, circuit wiring, sources of power and selective coordination.
- Article 700 (Emergency Systems) deals with power requirements that directly affect life safety issues.
- Article 701 (Legally Required Standby Systems) addresses power requirements that could affect safety, typically by affecting rescue or firefighting operations, and are deemed necessary by the AHJ.
- Article 702 (Optional Standby Systems) covers systems that are not addressed by Articles 700 or 701.
- Explain similarities and differences between Articles 725 and 760.
- Identify Article 725 that covers the use, listing and marking of cables for remote control and signaling systems.
- Article 760 addresses fire alarm circuits, which work similarly to remote control and signaling circuits and perform similar functions. They can be either power-limited or non-power-limited.
- Explain similarities and differences between Article 770 and Chapter 8 and how these two articles compare with Articles 725 and 760.

Who Will Benefit
Anyone whose job involves designing, reviewing, evaluating or installing electrical systems, including: designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.
NEC Special Topics

This self-paced online training series covers Special Topics of electrical systems and the requirements outlined in NFPA 70: National Electrical Code. The series includes five course modules. Successfully complete this series and earn .5 CEU.

These modules are included in the series:

- Specific Equipment Part I
- Specific Equipment Part II
- Specific Equipment Part III
- Special Occupancies
- Special Equipment

Upon completion you should be able to:

- Describe the most common uses of flexible cords and cables, including permitted and non-permitted uses and modifications to prohibited uses.
- Explain requirements for receptacles, cord connectors and attachment plugs, including grounding, replacements, receptacle mounting, damp and wet locations and tamper resistance.
- Be familiar with the NEC classification system, including:
  - knowing what hazardous material is included in each Class designation
  - knowing what Division and Zone classifications are based on
  - identifying how electrical designers and installers use classifications
- Explain where to find requirements for electric vehicle charging systems and electrified truck parking spaces (Articles 625 and 626).

Who Will Benefit
Anyone whose job involves designing, reviewing, evaluating or installing electrical systems, including: designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.
This self-paced online training course introduces many safety-related work practices and procedures in NFPA 70E. The module discusses the purpose and scope of the standard, which is designed to minimize the risk of employee injuries from electrical dangers and establish a safer workplace for employees who work on or near exposed live parts. It provides an overview of elements of an electrical training program as well as the types of equipment used in establishing an overall electrical safety program.

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

- Describe the electrical hazards in the workplace, including electric shock, arc flash, arc blast
- Explain the requirements for maintaining electrical safety in the workplace, including personal protective equipment (PPE); approach boundaries; flash protection boundary; and working "on" or "near" live parts
- Explain training requirements for single-employer sites and multi-employer sites, and for qualified and unqualified persons
- Describe the elements of an electrical safety program, including program principles, controls and procedures; hazard/risk evaluation; and job briefing
- Describe the proper use of test instruments and equipment, portable electric equipment, and overcurrent protection

Audience
Anyone concerned with electrical safety including: electrical engineers, safety managers, electricians, electrical contractors, plant managers, facility maintenance personnel, electrical inspectors, risk managers, and project managers.

IACET CEU Award
This course will take approximately five hours to complete, including taking the Quiz following the course. A passing score of 80% must be earned on the Quiz in order to qualify for IACET CEUs. The IACET CEU value of the course is .5 (5/10th) IACET CEU, which is equal to five contact hours.
This self-paced online training series covers the basics of smoke control systems. The series includes four course modules. Successfully complete this series and earn 0.4 CEU. These modules are included in the series:

- Nature of Smoke
- Module 1: Pressurization Smoke Control Systems
- Module 2: Smoke Control Systems for Large Volume Spaces
- Module 3: Commissioning Smoke Control Systems

Upon completion you should be able to:

- Identify the basic principles of smoke movement within buildings, recognize common methods of active and passive smoke control, and the code requirements for smoke control systems.
- Discuss design configurations for smoke control systems, the available design tools and the factors that affect design configurations.
- Identify the difference between smoke control commissioning and periodic testing and recognize key terms used in smoke control testing references and standards.

Who Will Benefit
Anyone whose job involves designing, reviewing, evaluating or installing fire protection systems, including: designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.
Warehouse Fire Safety

This self-paced online training series covers the fire safety precautions surrounding the storage of goods, the major cause of warehouse fires, and how you can reduce these risks. The course discusses how your facility can use proper storage techniques for roll paper, hanging garments, carpet, and cold storage. You will learn about fire safety issues for refueling, industrial vehicles, and their maintenance. Complete all four modules and qualify for .4 CEU.

These modules are included in the series:
- Warehouse Fire Safety - Fire Problems
- Overview of Hazardous Commodities
- Special Hazardous Commodities
- Warehouse Fire Safety - Industrial Trucks

Upon completion you should be able to:
- Describe the unique and common fire problems involved with the storage of goods, the major causes of fires in warehouses, discuss the actions to reduce these fires and the paramount role of life safety.
- Explain the basics of flammable liquids, plastics and aerosols and discuss proper storage techniques, safety precautions, and official NFPA guidelines for hazardous commodities.
- Discuss the special hazards associated with roll paper, hanging garments, carpet and cold storage.
- Understand how forklifts and other powered industrial trucks can be sources of warehouse fires.

Who Will Benefit
Anyone whose job involves designing, reviewing, evaluating or installing fire protection systems, including: designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.
Fire Extinguishers at Work

This self-paced online training course covers workplace fire extinguishers, including the A, B, C and D types of fire extinguishing agents. Upon completion you should be able to:

- Understand the different classes of fires
- List and understand the different types of extinguishing agents
- Operate all basic types of extinguishers and the technique for safe use

Who Will Benefit
Anyone whose job involves designing, reviewing, evaluating or installing fire protection systems, including: designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.
Introduction to Combustible Dust Hazards

This self-paced online training course introduces how dust deflagrations occur and how to manage the potential risk of dust explosions and deflagrations.

At the completion of this course, you will be able to:
- Identify the conditions for a deflagration to occur
- Explain the fundamentals of combustible dust
- Identify the hazards that may be present
- List the appropriate housekeeping methods
- Describe how combustible dust hazards can be managed

This course was produced by JENSEN HUGHES subject matter experts. It is presented for the purposes of cross-training and continuing education. At the conclusion of this course, you will be asked to take a short quiz.
Introduction to Mass Notification Systems

This self-paced online training course covers basic information regarding the use and application of Mass Notification Systems (MNS). Emergency Communication Systems (ECS) are designed to provide communication capability in the event of any type of an emergency.

Students will learn to:
- Identify MNS as one aspect of Emergency Communication Systems (ECS)
- Explain the purpose of MNS
- Explain when MNS may be utilized
- Describe the tiers of MNS technical solutions
- Identify the most commonly used tiers of MNS technical solutions
- Describe the challenges associated with MNS
- Identify the general design criteria for MNS

Introduction to Structural Fire Protection

This course introduces passive fire resistance features in building design, the key elements in structural fire protection.

Upon completion you should be able to:
- Explain the difference between active and passive fire protective systems
- Identify the major fire resistive materials standards
- Identify the major fire resistive design standards

Who Will Benefit
Anyone whose job involves designing, reviewing, evaluating or installing fire protection systems, including: designers, installers, engineers, electrical contractors, technicians, project managers, fire marshals, and architects.
SECTION 4 – PRODUCT SALES TRAINING
Courses for Sales Reps and Designers

This section describes each of the courses intended for the Sales and Design audience.

Simplex 407ES Hybrid Fire Alarm System - Sales
Course No. FA436

<table>
<thead>
<tr>
<th>Course Duration</th>
<th>Prerequisite</th>
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</thead>
<tbody>
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<td>2 Hours CEU: NA</td>
<td>None</td>
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</tbody>
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This eLearning course will enable you to configure the Simplex 407ES Hybrid Fire Alarm Control Unit based on sample specification and application scenarios. You will learn to use sales tools such as FASTool and Job Design to build a sale quote for the Simplex 407ES Hybrid Fire Alarm Control Unit. This course is a prerequisite for FA449 Simplex ES Fire Products Sales Applications, which replaces FA448.
SECTION 4 – PRODUCT SALES TRAINING

Simplex ES Fire Alarm Sales and Applications Fundamentals – Virtual Course No. FA440

This virtual course teaches the fundamentals of the Simplex ES Fire Alarm technology and products. The course format is a live instructor led virtual classroom, with multiple sessions held over several days. Students work collaboratively with their classmates, as well as complete assignments independently between sessions. Students can expect to learn:

- The features, functions, and benefits of the 4007ES, 4010ES and 4100ES Fire Alarm Control Units (FACUs) and how to translate those into customer value
- Simplex TrueAlarm and other initiation and notification products, including the patented Addressable TrueAlert technology, featuring Self-Test capability
- The most recent Configuration, Pricing, and Quote applications while applying Simplex ES products to real-life customer applications.

At the end of this course, students should be able to:

- Communicate customer value through features, functions and benefits of the Simplex ES family of technology and products
- Demonstrate competency using company Configuration, Pricing, and Quote applications
- Configure a basic 4007ES, 4010ES, and 4100E FACU based on a sample project specification

Note: This course and its prerequisite is an alternative to the Simplex ES Fire Product Sales Applications (FA449) course. However, audio and networking concepts are NOT covered in this course. These will be covered in a future course.
Fire Alarm Design Level I – Virtual

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<td>FA440</td>
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This virtual course teaches the fundamentals of designing a basic fire alarm system. The course format is a live instructor led virtual classroom, with multiple sessions held over several days. Learners work collaboratively with their classmates, as well as complete assignments independently between sessions. This course is intended for fire construction sales representative though other roles may request enrollment. The focus is on fire alarm and building codes that dictate proper design of a fire alarm system. Learners must have completed the Simplex ES Fire Alarm Sales and Applications Fundamentals course (FA440) as a prerequisite.

Fire Alarm Design Level II – Virtual

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<td>See Description</td>
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<tr>
<td>CEU: NA</td>
<td></td>
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</tbody>
</table>

This virtual course builds upon the fundamentals of designing a basic fire alarm system, including audio, emergency controls and other functions of the 4100ES FACP. The course format is a live instructor led virtual classroom, with multiple sessions held over several days. Learners work collaboratively with their classmates, as well as complete assignments independently between sessions. This course is intended for fire construction sales representative, though other roles may request enrollment. The focus is on fire alarm and building codes that dictate proper design of a fire alarm system in a High Rise building. As prerequisites learners must have completed Fire Alarm Design Level I (BTS-15815) and the product division's Integrated Audio courses prior to registering for this course.
Fire Alarm Design Level III – Virtual

<table>
<thead>
<tr>
<th>Course Duration</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
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<td>4 Days</td>
<td>See Description</td>
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<td>CEU: NA</td>
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This virtual course covers designing an advanced fire alarm system, including networking and other complex functions in a campus environment. The course format is a live instructor-led virtual classroom, with multiple sessions held over several days. Learners work collaboratively with their classmates, as well as complete assignments independently between sessions. This course is intended for fire construction sales representative, though other roles may request enrollment. As prerequisites learners must have completed Fire Alarm Design Level I (BTS-15815), Fire Alarm Design Level II (BTS-15816), Network Fundamentals (BTS-12363) and ES NET Fire Alarm Networks.
About Johnson Controls

We combine technology with insights to build purposeful solutions that help the world progress, meeting today's needs and shaping better tomorrows.

Johnson Controls is a global diversified technology and multi industrial leader serving a wide range of customers in more than 150 countries. Our 130,000 employees create intelligent buildings, efficient energy solutions, integrated infrastructure and next generation transportation systems that work seamlessly together to deliver on the promise of smart cities and communities.

Our commitment to sustainability dates back to our roots in 1885, with the invention of the first electric room thermostat. We are committed to helping our customers win and creating greater value for all of our stakeholders through strategic focus on our buildings and energy growth platforms.

For additional information, please visit www.johnsoncontrols.com or follow us @johnsoncontrols on Twitter.