



# Automatic **Fire** Alarm Association 2022 COURSE CATALOG

(rev. 1.4.22)

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\* Indicates that portions of these classes also include preparatory material for the NICET certification exams, Level 1 and 2.

\*\*Indicates that portions of these classes also include preparatory material for the NICET certification exams, Level 3 and 4.

## **A User's Guide to Simplifying NFPA 72 and the NEC**

*A. NFPA 72-2019 and NEC 2020*

*B. NFPA 72-2016 and NEC 2014*

*1-day Course Outline (7 hours)*

### **Course Description**

This interactive one-day course will provide a better understanding of how to use NFPA 72, *The National Fire Alarm and Signaling Code* and includes the fire alarm wiring requirements of NFPA 70, *The National Electrical Code*. This information will not only be helpful to designers, installers and service personnel, but also those preparing to take a NICET test for Fire Alarm Systems. This course will include some practice quizzes to help the attendee locate and use the information in NFPA 72.

This course consists of 7 Contact Hours for continuing education. The student must attend the entire seminar to receive credit.

### **Course Materials**

- Student workbook (provided)
- Students must bring their copy of the NFPA 72, edition based on the course.
- Students are encouraged, but not required, to bring a copy of the NEC.
- Calculator, pencils and note paper (Student to provide)

### **Course Outline**

1. Pre -quiz
2. Layout of NFPA 72
  - a. How to locate information quickly
  - b. Discussion of key sections of NFPA 72
3. Fire Alarm requirements of the NEC
4. Review of the NICET CBT process
5. Post Quiz

## **Fire Alarm Fundamentals**

**(Formerly Basic Fire Alarm Systems)**

*A. NFPA 72-2019, NEC 2017*

*B. NFPA 72-2016, NEC 2014*

1 Day Course Outline (7 hours)

2 Half days if offered online

This Fire Alarm Fundamentals is an application course beneficial for new installers, sales personnel, service technicians, plus building and fire inspectors involved in acceptance testing and/or plans review. This course is also useful as a refresher for anyone involved with fire alarms. This seminar reviews fire alarm system fundamentals; their components; and the proper methods used to satisfy the requirements of NFPA 72, *National Fire Alarm and Signaling Code* and NFPA 70, *National Electrical Code*.

This course consists of 7 Contact Hours for continuing education. The student must attend entire seminar to receive credit.

### **Course Materials**

- Student workbook and handouts (provided)
- Student should bring the respective editions of NFPA-72 and NFPA-70 for the class.
- Calculator, pencils and note paper (Student to provide)

### **Course Outline**

#### Chapter 1 – Fundamentals.

Control panels, power supplies, circuits, signals, initiating devices, notification appliances, fire safety control functions; addressable, analog, and multiplex systems; emergency voice/alarm communication systems, survivability, and two-way emergency communications systems; battery-set calculations and voltage-drop calculations.

#### Chapter 2 – Initiating Devices.

Review the proper application of manual fire alarm boxes, heat detectors, smoke detectors, flame detectors, waterflow switches, supervisory signal-initiating devices.

#### Chapter 3 – Notification Appliances.

Review the proper application of horns, bells, buzzers, chimes, speakers, strobes, and annunciators. Discuss sound transmission in the built environment.

#### Chapter 4 - Fire Safety Control Functions.

A review of control functions such as smoke door release, elevator recall, HVAC fan shutdown, smoke control/management systems, high-rise applications, and atriums. Discuss duct detector requirements and installation. Fire safety control function circuit supervision requirements.

## **Fire Alarm Plan Review**

1-day Course Outline (7 hours)

2-half days if offered online

### **Course Description**

This application course describes the common problems associated with the plan review process and offers suggestions for improvement by providing plan review and acceptance test checklists, spreadsheets to determine battery and voltage drop calculations, exercises to determine proper spacing of smoke detectors, exercises to determine proper audibility of fire alarm notification appliances and proper sizing and placement of visible notification appliances. This seminar is intended for authorities having jurisdiction involved in fire alarm system plan review, contractors providing submittal documentation for plan review and fire alarm system designers.

This seminar is based on 2016 NFPA 72, 2014 NFPA 70 (NEC) and 2015 IBC and 2015 NFPA 101. Updates to 2019 editions anticipated in Fall of 2022.

This course consists of 7 Contact Hours for continuing education. The student must attend entire seminar to receive credit.

### **Course Materials**

- Student course book and handout workbook (provided)
- Student should bring the respective editions of NFPA 72, NFPA 70 and their adopted building code.
- Calculator, pencils and note paper, ruler and compass (Student to provide)

### **Course Outline**

1. Review the Requirements for Plan Review and Submittals based on the International Building Code and NFPA 72.
2. Review of pre-plan and plan review checklists examples
3. Review secondary power supply requirements including battery-set calculations
4. Review voltage-drop limits including voltage-drop calculations
5. Review smoke detector location and spacing requirements including practical exercises
6. Review fire alarm audible notification requirements including practical exercises
7. Review fire alarm visible notification requirements including practical exercises
8. Review of pre-acceptance and acceptance testing checklist examples

## **Fire Alarm System Inspection and Testing Seminar –**

*A. NFPA 72, 2019 and NEC 2017 editions COMING SOON!*

*B. Based on the NFPA 72, 2016 and NEC 2014 editions*

1-day Course Outline (7 hours)

2-half days if offered online

### **Course Description**

This basic application course reviews the requirements for fire alarm systems testing and inspection; how to perform the tests properly; and how to conduct visual inspections in order to satisfy the requirements of NFPA 72, *The National Fire Alarm and Signaling Code*. This seminar is beneficial for installers performing acceptance or reacceptance tests of new fire alarm systems; service technicians performing periodic testing and inspection of existing fire alarm systems; building and fire inspectors witnessing acceptance and reacceptance testing; and personnel representing the owner, whom is responsible for the testing and inspection of fire alarm systems in their facilities.

### **Course Objective**

Upon completion of this course, the attendee will be able to determine the testing and inspection requirements of NFPA 72 and how to perform these tests, as well as understand the NICET application process and requirements.

This course consists of 7 Contact Hours for continuing education. The student must attend entire seminar to receive credit.

### **Course Materials**

- Student workbook (provided)
- Students must bring the respective edition of NPFA 72 for the course.
- Calculator, pencils and note paper (Student to provide)

### **Course Outline**

1. Pre-Quiz
2. NICET T&I Certification Information
3. IBC/IFC Code Requirements for Inspection and Testing
4. NFPA 101 Requirements for I&T
5. NFPA72-
  - a. Chapter 7 - Documentation
  - b. Chapter 10 - Qualifications
  - c. Chapter 14 – ITM
6. Post Quiz

# **Understanding IBC Fire Alarm Requirements**

*A. Based on the International Building Code, 2018 edition*

*B. Based on the International Building Code, 2015 edition*

1-day Course Outline (7 hours)

2-half days if offered online

## **Course Description**

This seminar is beneficial for designers of fire alarm systems, project managers or lead installers responsible for fire alarm systems and authorities having jurisdiction responsible for fire alarm system plan review and acceptance testing. It is also useful for those preparing for the NICET Level III and IV computer-based test. Discussions and practical exercises are used to improve the participant's knowledge of and how to use the building and fire codes in determining fire alarm requirements.

This course consists of 7 Contact Hours for continuing education. The student must attend entire seminar to receive credit.

## **Course Objectives**

Upon completion, each participant should have a better idea of how to use the IBC in determining minimum fire alarm requirements according to the building's intended use and occupant load.

## **Course Materials**

- Student workbook (provided)
- Student should bring the edition of the International Building Code for the course you are attending
- Calculator, pencils and note paper - Student to provide

## **Course Outline**

1. Introduction and discussion of Codes and Standards
2. Review the format of the International Building Code
3. Discuss the changes between editions
4. General fire alarm requirements such as submittal document requirements
5. Specific fire alarm requirements by occupancy use group and occupant load
6. Practical exercises and discussion of fire alarm system requirements

*A. Based on the NFPA 72, 2016 edition*  
2-Day Course Outline (14 hours)

### **Course Description**

This 2-day seminar reviews and explains the ever-changing roles of fire alarm systems and how to apply NFPA 72 - The National Fire Alarm and Signaling Code for improved protection and compliance.

After discussing NFPA 72 “cover to cover” students will be able to explain how building, fire, and life safety codes influence the requirements fire alarm systems. In addition, students will be able to determine how NFPA 72 is used to design, install, and maintain a fire detection and alarm system and how the Code is arranged.

In addition to new technologies and major revisions in the Code, we will address the newest requirements for initiating devices, notification appliances, emergency control operations, power supplies, circuits, pathways and much more.

This seminar is an exceptional opportunity for fire alarm system designers, project managers, installers, contractors, fire & building code officials, and project managers to advance and expand their fire alarm and signaling system knowledge and understanding.

14 Contact Hours Continuing Education - Participant must attend entire seminar to receive credit.

### **Course Materials**

- Student workbook provided
- NFPA 72, (based upon the class attending – student to provide)
- Calculator, pencils and note paper (Student to provide)

### **Course Outline**

1. Introduction and discussion of Codes and Standards
2. Review the format of NFPA 72
3. Discuss the general requirements of the code
4. Practical exercises and discussion of fire alarm system requirements

## **Prep for NICET Levels 1 & 2 Fire Alarm Systems**

1 or 2-day Course Outline (7 or 14 hours)

2 or 4-half days if offered online

### **Course Description**



In this course, participants will take an in-depth look into the codes and standards referenced by NICET for fire alarm certification. The course is designed for anyone considering or preparing to take a certification exam or simply seeking additional knowledge of the codes and standards governing fire alarm design, installation and general work practices. The interactive nature of the course delivery and practical exercises will improve participants knowledge of the use and application of NFPA 72, the NEC, and the building and fire code requirements for fire alarm systems. In addition, attendees will have the opportunity to dialogue with instructors familiar with the certification and testing process.

## **Learning Objectives**

At the conclusion of the course, participants will be able to:

- Understand the purpose, scope, structure, layout, and application of NFPA 72-2019, the NEC (2017 edition) and the 2018 edition of the International Building Code.
- Distinguish between codes and standards and how those differences apply to certification.
- Recall where to locate information within the codes and standards referenced by NICET.
- Recognize proper wiring methods as required by the NEC.
- Prepare simple shop drawings after assembling basic project information.

## **Course Length**

2 days (14 hours total – 7 hours per day) – Students must attend entire seminar to receive credit.

## **Course Outline**

### Day One

1. NFPA 72 “pre-quiz”
2. Layout of NFPA 72
3. Fire alarm requirements from the NEC
4. Review of the NICET CBT process
5. “Post-quiz”

### Day Two

6. Introduction to codes vs. standards
7. Format of International Building Code
8. Changes between editions
9. General fire alarm requirements
10. Specific fire alarm requirements
11. Practical exercises

# Elevator and Fire Alarm System Interface

**NFPA 72-2019 and IBC/IFC 2021**

Half-day course – 3.5 hours

On-line and Classroom

This intermediate level course will discuss the elevator types and the emergency interfaces that are required. For years, fire alarm systems have been interfaced with elevators to provide control of the elevator in emergency situations. This interface, however, has often been the subject of much debate with shifting and conflicting code requirements through the years. The applicable code requirements will be discussed in order to determine what fire alarm emergency interfaces should be provided by an owner and designer, as well as the authority having jurisdiction who must approve these important requirements.

This course is beneficial for those with at least two years of experience in system design and installation, as well as inspection and testing. This is applicable for system designers, sales personnel, installation and service technicians, plus building and fire inspectors involved in acceptance testing and/or plans review.

This presentation will feature the following learning objectives:

1. What types of elevators are there and how does this effect emergency interface requirements?
2. What are the various Code requirements that determine elevator emergency interface requirements?
3. What are the specific requirements for elevator and fire alarm system interface?

This course consists of 3.5 contact hours for continuing education. The student must attend the entire seminar to receive credit.

## **Course Materials**

- Student workbook and handouts (provided)

# Intermediate Detection Systems

*NFPA 72-2019*  
Half-day course – 3.5 hours  
On-line and Classroom

This training course provides an understanding and operating principles of initiating devices beyond spot-type smoke and heat detection. This includes projected beam smoke detection, video image smoke/flame detection, air sampling smoke detection, high air movement areas, radiant energy sensing and carbon monoxide detection. Attendees will better understand the types of initiating device to use in different and unique applications and apply this knowledge to your project to respond quickly to the hazard without nuisance alarms.

This course is beneficial for those with at least two years of experience in system design and installation, as well as inspection and testing. This is applicable for system designers, sales personnel, installation and service technicians, plus building and fire inspectors involved in acceptance testing and/or plans review.

This course consists of 3.5 contact hours for continuing education. The student must attend entire seminar to receive credit.

## **Course Materials**

- Student workbook and handouts (provided)

# **Carbon Monoxide Detection Seminar**

*COMING SOON!*

*1-day Course Outline (7 hours)*

## **Course Description**

This seminar focuses on new requirements for Carbon Monoxide detection in the 2015 NFPA 101, *Life Safety Code*, and the 2015 *International Residential Code*, current legislation requiring CO detection, and a review of the requirements of NFPA 720–2015, *Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment*, IBC-2015, and NFPA 101-2015 *Life Safety Code*

This course consists of 7 Contact Hours for continuing education. The student must attend entire seminar to receive credit.

## **Course Materials**

- Student workbook and handouts (provided)
- Student should bring NFPA 720-2015 and current building and residential code editions.
- Calculator, pencils and note paper (Student to provide)

## **Course Outline**

1. Review the CO requirements of the 2015 NFPA 101, *Life Safety Code*
2. Review the CO requirements of the 2015 *International Residential Code*
3. Review legislative requirements for CO detection
4. Review the requirements of 2015 NFPA 720

**Selling Safety**  
**1-day Course Outline (7 hours)**  
*COMING SOON!*

**Course Description**

This seminar is intended for sales representatives interested in selling fire alarm services. The seminar includes a review of codes and standards, fire alarm system fundamentals, the sales process, and the importance of using clear contract language. Other sales opportunities are reviewed, including testing and inspection, monitoring, and others.

This seminar is based upon the International Building Code and NFPA 72, *The National Fire Alarm and Signaling Code*.

This course consists of 7 Contact Hours for continuing education. The student must attend entire seminar to receive credit.

**Course Materials**

- Student workbook (provided)
- Student should bring current copies of NFPA-72 and the IBC.
- Pencil and note paper – (student to provide)

**Course Outline**

1. Don't be afraid to sell fire protection services
  - a. Understand why fire protection is provided; codes and standards
2. Fire alarm system fundamentals
  - a. Pieces and parts
3. Jump into Fire!
  - a. Define your market segments
4. What have you done for me lately?
5. Other sales opportunities