

Sprinklermatic

UNIVERSITY
est. 1987

WE ARE ETERNAL STUDENTS
AND WE LOVE WHAT WE DO.



SPRINKLERMATIC UNIVERSITY

CURRICULUM 2018-2019



**I have no
special talent,
I am only
passionately
curious.”**

– Albert Einstein

Having grown up around tradesmen, estimators and fire protection leaders you would think that Robin Collier would have had a great advantage in his training and education in the business, this however was not the case as likely most of you can relate to the feeling that no one really wanted to “teach” you.

Sprinklermatic University was specifically created to break that mold, this facility although built under our brand is simply a place where men and women can learn, ask questions and be taught, and this is a place where the curious will thrive. A facility for tradesmen, vendors, property managers, engineers and first responders to come together in a safe environment and call on each other, challenge each other and lean on each other to teach learn and collaborate.

We have a strict no solicitation no recruitment policy as well as an agnostic approach as it comes to the type or brand of product, all we care about is that the message of life safety gets to our community, the facility is as much ours as it is yours, you can come take a class, you can come host a class, as long as the above policies are followed, we have built this learning institution to quench the curiosity of the people who believe in life safety.

Please, join us at Sprinklermatic University to better our life safety community.



UNIVERSITY OVERVIEW

Sprinklermatic University is a private learning facility located in Davie, Florida. Sprinklermatic University is used for hands on orientation, training, and education to the fire sprinkler industry and firefighters with the purpose of giving a general overview and Introduction to fire sprinklers and fire protection systems. This University is unique in that it is the only facility that affords students the ability to operate real equipment and actually flow water in a learning environment to practice their craft. Sprinklermatic University is an approved training provider with the Florida State Fire College and Department of Business and Professional Regulation (DBPR). The facility provides continuing education to firefighters, property managers, NICET and other professional licenses and certifications. Sprinklermatic University is an established fire protection systems laboratory specifically designed for training purposes and in doing so unites the fire sprinkler industry and fire service personnel.



CURRICULUM OVERVIEW

Sprinklermatic University's Fire Protection Systems Program curriculum is designed to give students a general overview of fire sprinklers and fire protection systems. The curriculum provides a breakdown of the NFPA standards and other legislature that govern fire protection systems. Educational objectives are listed and will be met by students at the completion of the program. There are currently five courses which are approved by the Florida State Fire College and Department of Business Professional (DBPR). Each course provides (3) CEUs to firefighters, fire inspectors, fire instructors, property managers, NICET and other professional licenses and certifications.

FIRE PROTECTION SYSTEMS LABORATORY OVERVIEW

The facility contains a diesel fire pump fed by (2) 1,000-gallon holding tanks. The test header is piped back to the holding tank and the water is recirculated. The test header has pitotless nozzles and a nozzle to take a pitot reading. The fire pump RPM's (Speed) can be adjusted to illustrate several pump curves for training. The pump is complete with a controller including a jockey pump and jockey pump controller. Utilizing the jockey pump and air compressor allows full trip tests of the valves and the ability to reset the valves in order to place the system back in service. The valves have detection that is able to be tripped with a switch, annunciate the panel and send into alarm and release.

Riser 1

A Flow Control Valve with Fire Cycle Trim; this is an intricate system as it allows the system to be turned off. These valves have quick ON / OFF capabilities allowing for endless applications. These valves can be used to flow open deluge foam, fill water tanks, or used with Viking Proprietary Detection that allows a fire sprinkler system to turn itself off after the fire and a cooling and soaking period; to avoid the continuous flow of water in sensitive yet hazardous conditions.

Riser 2

A Double Interlocking Electric / Pneumatic Single Interlocking Preaction System. This is different from the single as this system requires two detectors plus the loss of air to activate. This type of system provides more of a fail-safe operation. If the head is accidentally hit, water will not discharge; as it requires two detectors to release before initiating water release. The air loss will provide a supervisory annunciation at the control – Release Panel.



Riser 3

A Single Interlocking Electric / Pneumatic Single Interlocking Preaction System. This system is similar to a wet system; it has closed sprinkler heads, but does not have water on the system- it has a low volume of air on the system, an electric detection system and releasing alarm panel. Upon activation of the detection water enters the system, the air pressure will hold the water back - air is strictly supervisory and upon release of the air (activation of a sprinkler head) the air vacates the open sprinkler and water comes out of the open outlet.

Riser 4

A Dry Pipe Valve with manual reset. This is an older style and requires the face of the valve to be removed to reset the valve and requires an air supply. A low volume of air – not water is inside the pipe; upon loss of air, the valve trips and water enters the system. This type of system is typical in freezing conditions; being from South Florida, we do not install these types of systems South of Orlando. NFPA 13 has a zone chart identifying the freeze line in Florida and is located in the Appendix.



Riser 5

An Alarm Check Valve with Water Motor Gong. The alarm check valve serves as a check valve by trapping pressurized water above the clapper and preventing reverse flow from sprinkler piping. The valve is designed to initiate an alarm during a sustained flow of water (such as the flow required by an open sprinkler) by operating an optional water motor alarm and/or alarm pressure switch. The water motor alarms are mechanical devices actuated by a flow of water. They are designed to sound a continuous alarm while a sprinkler system operates. An alarm is a required component of every sprinkler systems having more than 20 sprinklers. A retard chamber is used with the alarm check valve to reduce the possibility of false alarms due to changes in the water supply pressure.

Riser 6

A Shotgun Riser. This is the Viking 4" EasyPac Commercial Riser Manifold Assembly, available in sizes of 1 1/4" - 8" for commercial systems. The assembly is designed with all required equipment and standards components that can be replaced in the field including pressure gauges, Potter flow switches, 3-way gauge control valve and drain valve. It meets NFPA 13 requirements for gridded systems and any system requiring pressure relief valves. Also included is the Viking Easy Riser Check Valve, approved for use in fire service systems. This valve is for use in wet system risers, preaction system risers, and wherever a check valve with a drain connection and gauge connections can be utilized.

Riser 7

This is not a riser; it is actually a Standpipe. Standpipes are usually required in all occupancies where the lowest level of fire department vehicular use is more than 30'-0" or more than three levels. Standpipes are required in all required exit passages – this means stairwells. NFPA 14 is the standard for the installation of Standpipes. Standpipes are sometimes located on the intermediate Landings; we prefer the Primary landings; because of the multiple offsets and additional piping. Standpipes in fully protected buildings can be located up to 400 LF apart; so that they provide 100% coverage inside the dwelling units from said locations. If proper hose reach cannot be provided additional Hose valves in cabinets are required. Some municipalities such as Boca and Plantation will require valves in the stairs as well as outside the stairwell.



There are two types of standpipes that we use: Automatic and Manual; typically, both are wet; as they will be required to have water on the system to prevent water hammer.

MANUAL STANDPIPES

Require the use of a fire department pumper truck; the system demand is not provided by a fire pump. This type of system can be installed in buildings where the lowest level of fire department vehicle access does not exceed 75'-0" and the building not considered a high rise. Buildings that have wet manual standpipes can also have a fire pump; however, the fire pump is designed to the sprinkler demand, and not the Standpipe System Demand.

AUTOMATIC STANDPIPES

Means without human hand; so, an Automatic Standpipe is required to supply the system Demand Automatically; via a fire pump sized to provide the system demand. This type of standpipe is required on all high-rise buildings and will require a Transfer Switch that supplies power via a generator upon loss of power; per the Florida Building Code. Standpipe demand: Required at the most remote stand pipe and 250 GPM for each additional standpipe. A reduction to a total of 1000 GPM can apply if the building is fully sprinklered.

Pressure Regulating: Two types of PRV's – PRV's are required where working pressure is in excess of 175 PSI

FIELD ADJUSTABLE AND FACTORY SET FHY'S AND FLOOR CONTROL VALVE ASSEMBLIES STANDARD WEIGHT FHY

FHV: Allowed in systems with pressure less than 165 PSI PRV's are required to be tested and drained to an outlet and drain sized one pipe size larger than the valve you are testing – typically 3" drains located in stairs with a Swivel Drain located every other floor.

Riser 8

It is a standard 13-R riser. The riser is built from 2" black steel pipe, Viking Riser Manifold, pressure gauges, control valve, flow switch and drain with pressure relief valve. 13-R is the NFPA Standard for Multifamily Residential up to four stories in height; it is also considered a life Safety system with emphasis in providing time for the building occupants to vacate the building. The underground water supply is usually from a dedicated Fire Service; typically, CPVC is installed underground water supply is usually from a dedicated Fire Service; typically, CPVC is installed underground from the discharge side of the DDCV. CPVC is listed for Above ground and underground installations; bury depths are defined in NFPA 24 – Standard for the installation of private fire service mains.

Riser 9

It is a standard 13-D riser. The riser is built from 1" black steel pipe; Viking Riser Manifold, pressure gauges, control valve, flow switch and drain with pressure relief valve. The assembly has a 1" Wilkins backflow and control valve. NFPA 13-D is a residential life safety system; specifically, for single-family homes and duplex. They are designed to provide a duration of time for the occupants to get out, and less of an emphasis on protection of property. This type system usually is connected to the domestic water supply and uses CPVC in the concealed spaces to distribute piping and to conceal sprinkler heads. Because it is connected to the domestic water; it is important to comply with the local water purveyors and install a dedicated backflow preventer on the fire protection line so not to contaminate the drinking water.



SPRINKLERMATIC UNIVERSITY FIRE PROTECTION SYSTEMS PROGRAM COURSE CURRICULUM 2018-2019

RESIDENTIAL FIRE PROTECTION SYSTEMS HISTORY AND NFPA 13D & 13R

Residential Fire Sprinkler Systems in single family homes, town homes, multifamily occupancies up to four stories in height; including where and when standpipes are required.

- 🔥 13-D: Single Family homes and
- 🔥 13-R: Residential Occupancies up to four stories in height
- 🔥 NFPA-14: Standpipes: Locations and sizes
- 🔥 FBC chapter nine: When standpipes are required and what type.
 - Wet Manual Standpipes
 - Wet Automatic Standpipes

FIRE SPRINKLER SYSTEMS 101 APPLICATION OF NFPA 13, NFPA 14 & FLORIDA BUILDING CODE

Residential (Low Rise) & Commercial Fire Protection

- 🔥 NFPA 13: Occupancies; hazard classifications
- 🔥 NFPA 14: Standpipes: Locations and sizes
- 🔥 FBC chapter nine: When standpipes are required and what type.
- 🔥 Wet Manual Standpipes
- 🔥 Wet Automatic Standpipes

FIRE PROTECTION SYSTEMS DRY PIPE, PREACTION, AND VIKING FIRECYCLE SYSTEMS

- 🔥 NFPA 13
- 🔥 NFPA 72: Detection

FIRE PROTECTION SYSTEMS FIRE PUMPS, CONTROLLERS, AND HOLDING TANKS

- 🔥 NFPA 20 Fire Pump
- 🔥 NFPA 22 Water Tanks

FIRE PROTECTION SYSTEMS UNDERGROUND PIPING, BACKFLOW PREVENTERS, AND HYDRANTS

- 🔥 AWWA M17
- 🔥 NFPA 24 Underground
- 🔥 NFPA 291 Recommended Practice for Fire Flow Testing and Marking of Hydrants

1. Residential Fire Protection Systems History and Application of NFPA 13D & 13R



Course ID: ACTPC13527
Provider: Sprinklermatic Fire Protection

9629109
Sprinklermatic University LLC

Course Title

RESIDENTIAL FIRE PROTECTION SYSTEMS

Description

This course will examine the history of America’s residential fire problem and the NFPA standards that have been developed to help reduce life loss from fire in residential occupancies. Topics covered in this course include the origins and development of NFPA standards for residential fire protection systems, a review of reports from the United States Fire Administration concerning data on residential fires, videos of side by side burns conducted to demonstrate the effectiveness of residential fire sprinklers, general requirements of systems components including water supply with design and installation criteria, and finally best practices for inspecting, testing and maintaining the systems.

Number of Seats	20	20
Requested Hours	3.00	3.00
Audience	Firefighters	Community / Association Managers
Program type	In-house	In-house
Event Type	Classroom	Classroom
Course CE Type	Continuing Education	Continuing Education
Course Type	ATPC - third Party Courses	DBPR - third Party Courses
Certifications Served	Fire code Administrator Fire Safety Inspector I INSTRUCTOR I INSTRUCTOR II INSTRUCTOR III	General Contractors CAM / LCAM General Contractors Building Code Administrators & Inspectors Engineers
Contact Hours	3.00	3.00
Status	Approved	Approved
Date	From 09.25.17 to 09.24.19	From 06.13.18 to 06.12.20

1. Residential Fire Protection Systems History and Application of NFPA 13D & 13R

TIME FRAME

2 periods of 50 minutes with a 10-minute break between each, Classroom setting.
1 Period of 60 minutes, outdoors hands on training.

START: 09:00 AM

FINISH: 12:00 PM

MATERIAL / AIDS

PowerPoint slides, NFPA 13D 2010 Edition, NFPA 13R 2010 Edition, America Burning report, USFA Tropical Fire report series: One and Two-family residential fires (2013-2015), side by side burn demonstration videos, notepads, Sprinklermatic University hands on training riser systems.

LOCATION

Sprinklermatic University, 4740 Davie Road, Davie, FL 33314

OBJECTIVES

At the end of this session, the student will be able to:

1. Discuss the impact of significant residential fire statistics and research
2. Discuss the residential fire timeline
3. Describe residential fire sprinklers
4. Describe the scope of NFPA 13D
5. Describe the scope of NFPA 13R
6. Identify general requirements, water supplies, system components, design, and installation criteria for residential fire protection systems
7. Identify and demonstrate best practices for inspection, testing, and maintenance of residential fire protection systems.

1. Residential Fire Protection Systems History and Application of NFPA 13D & 13R

PRESENTATION

1. America Burning report of the National Commission on Fire Prevention & Control

- a. United States Administration
- b. National Fire Academy
- c. NFRIS: National Fire Incident Reporting System
- d. Center for Fire Research within the National Bureau of Standards

2. USFA Tropical Fire Report Series: One & Two-Family Residential Buildings (2013-2015)

- a. Death and injuries from residential fires
- b. Origin and cause of residential fires
- c. Location of fire victims
- d. Presence of detection and/or suppression systems

3. Residential fire time line

- a. Side by side burn demonstration videos

4. Residential fire sprinklers

- a. Sprinkler head components
- b. Required test parameters
- c. Design criteria

5. NFPA 13D & NFPA 13R

- a. Scope
- b. Water supply
- c. Design
- d. Installation
- e. Inspecting, testing, maintenance

6. Best Practices

- a. Hands on training
- b. Demonstrate application of standards on real equipment; water flow from on-site riser systems
- c. Viking Riser Manifold, pressure gauges, control valve, flow switch and drain with pressure relief, Wilkins backflow and control valve, double detector control valve

EVALUATION

Students will identify water supply and system components. Students will also perform best practices for inspecting, testing, and maintenance of both NFPA 13D riser and NFPA 13R riser.

OUTSIDE ASSIGNMENT

Student will identify structures protected by residential fire sprinkler systems in their respective AHJ.

2. Fire Sprinkler Systems 101 Application of NFPA 13, NFPA 14 & Florida Building code



Course ID: ACTPC13591
Provider: Sprinklermatic Fire Protection

9629108
Sprinklermatic University LLC

Course Title

FIRE SPRINKLER SYSTEMS 101

Description

Nothing impacts progress in advancement for fire protection systems like a catastrophe. This course will examine the history of fire protection systems and major fires that have influenced the standards that are in place today. Students will examine NFPA standards 13 & 14, as well as chapter 9 of the Florida Building Code. Students will gain an understanding of how automatic fire sprinkler systems are designed and installed along with how to properly inspect, test, and maintain. This course provides students the opportunity to place their hands on real equipment and flow water from the riser assemblies on site at Sprinklermatic University.

Number of Seats	20
Requested Hours	3.00
Audience	Firefighters
Program type	In-house
Event Type	Classroom
Course CE Type	Continuing Education
Course Type	ATPC - third Party Courses
Certifications Served	Fire code Administrator Fire Safety Inspector I INSTRUCTOR I INSTRUCTOR II INSTRUCTOR III
Contact Hours	3.00
Status	Approved
Date	From 09.25.17 to 09.24.19

20
3.00
Community / Association Managers
In-house
Classroom
Continuing Education
DBPR - third Party Courses
General Contractors CAM / LCAM General Contractors Building Code Administrators & Inspectors Engineers
3.00
Approved
From 06.13.18 to 06.12.20

2. Fire Sprinkler Systems 101 Application of NFPA 13, NFPA 14 & Florida Building code

TIME FRAME

2 periods of 50 minutes with a 10-minute break between each, Classroom setting.
1 Period of 60 minutes, outdoors hands on training.

START: 09:00 AM

FINISH: 12:00 PM

MATERIAL / AIDS

Powerpoint slides, NFPA 13 2010 Edition, NFPA 14 2010 Edition, Florida Building Code, notepads, Sprinklermatic University hands on training riser systems, cut away pressure regulating valve.

LOCATION

Sprinklermatic University, 4740 Davie Road, Davie, FL 33314

OBJECTIVES

At the end of this session, the student will be able to:

1. Discuss the impact of significant fires in the United States which led to improvements in fire protection systems
2. Identify sprinkler head components
3. Identify sprinkler types and discuss thermal sensitivity
4. Discuss the design criteria for residential and commercial fire sprinklers
5. Describe the scope of NFPA 13
6. Describe the scope of NFPA 14
7. Discuss how Chapter 9 of Florida Building Code plays a role in fire protection systems
8. Identify class I, class II, and class III standpipes
9. Identify fire hose valves, including pressure regulating valves and pressure regulating devices
10. Identify general requirements, water supplies, system components, design, and installation criteria for residential and commercial fire protection systems
11. Identify and demonstrate best practices for inspection, testing, and maintenance of residential and commercial fire protection systems.

2. Fire Sprinkler Systems 101 Application of NFPA 13, NFPA 14 & Florida Building code

PRESENTATION

1. Historical Fires and lessons learned

- a. Iroquois Theater
- b. Triangle Shirt Waist Company
- c. Coconut Grove Night Club
- d. Winecroff Hotel
- e. Our lady of Angels School
- f. Beverly Hills Super Club
- g. MGM Grand
- h. The Station Night Club

2. Sprinkler head components

- a. Frame
- b. Deflector
- c. Frangible bulb or fusible element
- d. Pipe cap
- e. Pintle crew
- f. Beverly spring

3. Types of fire sprinklers

- a. Upright
- b. Sidewall
- c. Pendent
- d. Standard coverage
- e. Extended coverage

4. Thermal sensitivity

- a. Standard response
- b. Quick response
- c. Residential

5. NFPA 13

- a. Scope
- b. Water Supply
- c. Design
- d. Installation
- e. Inspecting, testing, maintenance

6. NFPA 14

- a. Scope
- b. Water Supply
- c. Design
- d. Installation
- e. Inspecting, testing, maintenance

7. Florida Building Code

- a. Chapter 9
- b. Fire alarm and detection systems
- c. Automatic sprinkler systems
- d. Standpipe systems

8. Best Practices

- a. Hands on training
- b. Demonstrate application of standards and building code on real equipment with water flow from on-site riser systems
- c. Viking 4" Easypac commercial riser assembly, pressure gauges, automatic fire control valves, inspector's test and drain

EVALUATION

Students will identify water supply and system components. Students will also perform best practices for inspecting, testing, and maintenance of a NFPA 13 riser and NFPA 14 riser complete with fire hose valves.

OUTSIDE ASSIGNMENT

Student will identify structures protected by residential and commercial fire sprinkler systems in their respective AHJ. Students will also identify structures containing NFPA 4 compliant standpipe risers with fire hose valves.

3. Fire Protection Systems Dry Pipe, Preaction, and Viking Firecycle Systems



Course ID: ACTPC13592

9629147

Provider: Sprinklermatic Fire Protection

Sprinklermatic University LLC

Course Title

FIRE PROTECTION SYSTEMS DRY PIPE, PREACTION, AND VIKING FIRECYCLE SYSTEMS

Description

This course will supplement previous courses offered by Sprinklermatic University in a series on fire protection systems. Students will become familiar with dry pipe fire protection systems, preaction systems, and the Viking Firecycle system. Students will be able to implement the knowledge delivered in the classroom at the hands-on training riser system on site.

Number of Seats	20	20
Requested Hours	3.00	3.00
Audience	Firefighters	Community / Association Managers
Program type	In-house	In-house
Event Type	Classroom	Classroom
Course CE Type	Continuing Education	Continuing Education
Course Type	ATPC - third Party Courses	DBPR - third Party Courses
Certifications Served	Fire code Administrator Fire Safety Inspector I INSTRUCTOR I INSTRUCTOR II INSTRUCTOR III	General Contractors CAM / LCAM General Contractors Building Code Administrators & Inspectors Engineers
Contact Hours	3.00	3.00
Status	Approved	Approved
Date	From 09.25.17 to 09.24.19	From 07.30.18 to 07.29.20

3. Fire Protection Systems Dry Pipe, Preaction, and Viking Firecycle Systems

TIME FRAME

2 periods of 50 minutes with a 10-minute break between each, Classroom setting.

1 Period of 60 minutes, outdoors hands on training.

START: 09:00 AM

FINISH: 12:00 PM

MATERIAL / AIDS

Powerpoint slides, NFPA 13 2010 Edition, NFPA 72 2010 Edition, notepads, Sprinklermatic University hands on training riser systems

LOCATION

Sprinklermatic University, 4740 Davie Road, Davie, FL 33314

OBJECTIVES

At the end of this session, the student will be able to:

1. Describe a dry pipe fire sprinkler system
2. Describe a preaction fire sprinkler system
3. Describe the Viking Firecycle system
4. Describe the scope of NFPA 13
5. Describe the scope of NFPA 72
6. Identify general requirements, water supplies, system components, design, and installation criteria for dry pipe preaction, and th Viking Firecycle fire protection systems
7. Identify and demonstrate best practices fr inspection, testing, and maintenance of dry pipe, preaction, and the Viking Firecycle fire protection systems.

3. Fire Protection Systems Dry Pipe, Preaction, and Viking Firecycle Systems

PRESENTATION

1. Dry pipe fire sprinkler systems

- a. Description
- b. Dry pipe valve
- c. Valve and trim components
- d. Advantages and disadvantages
- e. Application and allowable sprinkler heads
- f. Air supply
- g. Placing the valve and system in service
- h. Operations during fire conditions
- i. Accelerator

2. Preaction fire sprinkler systems

- a. Description
- b. Single interlock and double interlock
- c. Types of deluge valves
- d. Air maintenance device
- e. Types of fire sprinklers
- f. Release system and devices
- g. Air sampling

3. Viking Firecycle systems

- a. Description
- b. Configuration-wet, deluge, or preaction
- c. VFR-400 panel
- d. Heat detectors

4. NFPA 13

- a. Scope
- b. Water supply
- c. System components
- d. Design and installation criteria

5. NFPA 72

- a. Scope
- b. Initiating devices and detection

6. Best practices

- a. Hands on training
- b. Demonstrate application of NFPA 13 on real equipment; water flow and valve reset from on-site riser systems
- c. Viking Riser manifold, pressure gauges, Easy Riser Swing Check Valve, FireCycle III Single Interlock and Double Interlock, release control panel, flow control valve, model F-1 deluge valve.

EVALUATION

Students will identify water supply and system components. Students will also perform best practices for inspecting, testing, and maintenance of both NFPA 13 compliant dry pipe system, a preaction system, and the Viking FireCycle system, including how to reset the valves.

OUTSIDE ASSIGNMENT

Student will identify structures protected by residential fire sprinkler systems in their respective AHJ.

4. Fire Protection Systems Fire Pumps, Controllers and Holding Tanks



Course ID: ACTPC13604

9629146

Provider: Sprinklomatic Fire Protection

Sprinklomatic University LLC

Course Title

FIRE PROTECTION SYSTEMS, FIRE PUMPS, CONTROLLERS, AND HOLDING TANKS

Description

Early fire pumps were only secondary supplies for sprinklers, standpipes, and hydrants. Today, fire pumps have greatly increased in number and application. Many are the major or only water supply and start automatically as opposed to early manual pumps. This course will examine the evolution of fire pumps. Students will have a better understanding of the different types of fire pumps, controllers, and holding tanks. Students will gain valuable and applicable knowledge regarding the operations of pumps and controllers, as well as holding tanks for the systems that supply both domestic and fire protection needs.

Number of Seats	20	20
Requested Hours	3.00	3.00
Audience	Firefighters	Community / Association Managers
Program type	In-house	In-house
Event Type	Classroom	Classroom
Course CE Type	Continuing Education	Continuing Education
Course Type	ATPC - third Party Courses	DBPR - third Party Courses
Certifications Served	Fire code Administrator Fire Safety Inspector I INSTRUCTOR I INSTRUCTOR II INSTRUCTOR III	General Contractors CAM / LCAM General Contractors Building Code Administrators & Inspectors Engineers
Contact Hours	3.00	3.00
Status	Approved	Approved
Date	From 09.25.17 to 09.24.19	From 07.27.18 to 07.26.20

4. Fire Protection Systems Fire Pumps, Controllers and Holding Tanks

TIME FRAME

2 periods of 50 minutes with a 10-minute break between each, Classroom setting.
1 Period of 60 minutes, outdoors hands on training.

START: 09:00 AM

FINISH: 12:00 PM

MATERIAL / AIDS

Powerpoint slides, NFPA 20 2010 Edition, NFPA 22 2013 Edition, notepads, Sprinklermatic University hands on 500 GPM diesel fire pump and controller, (2) 1000 gallon holding tanks, jockey pump and controller

LOCATION

Sprinklermatic University, 4740 Davie Road, Davie, FL 33314

OBJECTIVES

At the end of this session, the student will be able to:

1. Discuss the evolution of fire pumps for fire protection systems
2. Describe the different types of fire pumps
3. Explain pump performance and rating characteristics
4. Convert pressure rating from psi to feet of head vice versa
5. Explain how to set and align a pump
6. Identify potential causes of a malfunctioning pump
7. Discuss different types of drivers
8. Discuss electric drive controllers
9. Discuss diesel drive controllers
10. Identify different types of holding tanks
11. Identify and demonstrate best practices for inspection, testing, and maintenance of fire pumps, controllers and holding tanks

4. Fire Protection Systems Fire Pumps, Controllers and Holding Tanks

PRESENTATION

1. Fire Pumps

- a. Early pumps and evolution to current day standards
- b. Centrifugal pumps
- c. Split: horizontal and vertical
- d. Positive displacement
- e. Setting and aligning
- f. Troubleshooting malfunctions

2. Drivers

- a. Electric
- b. Diesel
- c. Steam

3. Controllers

- a. Power source
- b. Monitoring and alarm signaling
- c. Run timers
- d. Transfer switch
- e. Jockey pump and controller

4. Holding tanks

- a. Elevated tanks
- b. Water storage tanks
- c. Pressure tanks

5. Best practices

- a. Hands on training
- b. Demonstrate application of standards on real equipment; water flow using on-site fire pump, controller, and holding tank in conjunction with the riser systems
- c. Diesel fire pump, (2) 1000 gallon holding tanks, fire pump controller and jockey pump controller

EVALUATION

Students will identify on-site fire pump and controller. Students will operate the fire pump and controller and discuss water supply for domestic and fire protection needs. Students will also perform proper inspection, testing and maintenance of the fire pump.

OUTSIDE ASSIGNMENT

Student will identify water storage tanks in their respective AHJs and research domestic and fire protection demands. Students will also identify structures protected by water based fire protection systems and visually inspect the fire pump controller.

5. Fire Protection Systems Underground Piping, Backflow Preventers, and Hydrants



Course ID: ACTPC13605

9629151

Provider: Sprinklermatic Fire Protection

Sprinklermatic University LLC

Course Title

FIRE PROTECTION SYSTEMS UNDERGROUND PIPING, BACKFLOW PREVENTERS, AND HYDRANTS

Description

This course will examine critical components of any fire protection system. Tying into a waterworks system, digging trenches, installing pipes, and valves are commonly forgotten components of fire protection systems. Without these critical components in place, water from a sprinkler head will never be delivered to the fire. This course will break down the initial steps of installing fire protection systems, and will also provide students with knowledge on hydrant care and maintenance requirements.

Number of Seats	20	20
Requested Hours	3.00	3.00
Audience	Firefighters	Community / Association Managers
Program type	In-house	In-house
Event Type	Classroom	Classroom
Course CE Type	Continuing Education	Continuing Education
Course Type	ATPC - third Party Courses	DBPR - third Party Courses
Certifications Served	Fire code Administrator Fire Safety Inspector I INSTRUCTOR I INSTRUCTOR II INSTRUCTOR III	General Contractors CAM / LCAM General Contractors Building Code Administrators & Inspectors Engineers
Contact Hours	3.00	3.00
Status	Approved	Approved
Date	From 09.25.17 to 09.24.19	From 06.13.18 to 06.12.20

5. Fire Protection Systems Underground Piping, Backflow Preventers, and Hydrants

TIME FRAME

2 periods of 50 minutes with a 10-minute break between each, Classroom setting.
1 Period of 60 minutes, outdoors hands on training.

START: 09:00 AM

FINISH: 12:00 PM

MATERIAL / AIDS

Powerpoint slides, NFPA24 2010 Edition, NFPA291 2013 edition, Florida State Statute 633.082 Section 2 & 3, American Water Works Assoc. M17: Fire Hydrants, notepads, Sprinklermatic University hands on training center with backflow preventers and hydrants.

LOCATION

Sprinklermatic University, 4740 Davie Road, Davie, FL 33314

OBJECTIVES

At the end of this session, the student will be able to:

1. Describe different water main configurations
2. Identify the different types of control valves
3. Identify and describe types of underground pipe
4. Explain trenching safety requirements
5. Describe excavation support systems
6. Describe types of bedding material
7. Describe thrust blocks and restraints
8. Define general purpose of backflow preventers
9. Demonstrate ability to service a backflow preventer
10. Identify and describe hydrants, yard valves and associated equipment
11. Explain hydrant care including ISO requirements
12. Explain testing, inspecting, and maintenance of underground piping, backflow preventers, and hydrants

5. Fire Protection Systems Underground Piping, Backflow Preventers, and Hydrants

PRESENTATION

1. Water supplies

- a. Volume and pressure from water flow data
- b. Fire service mains
- c. Connections to public water systems

2. Valves

- a. Non-indicating/indicating
- b. Control valves; post indicator/wall post indicator/OS&Y
- c. Valve pits
- d. Check valves

3. Underground pipe

- a. Pipe type and class
- b. Joining pipe and fittings
- c. Contractor's material and test certificate

4. Trenching

- a. General safety
- b. Excavation support (shoring)
- c. Bedding material
- d. Thrust blocks
- e. Joint restraints

5. Backflow

- a. Purpose
- b. Double check valve/double detector check valve
- c. Reduced pressure/reduced pressure detector
- d. Inspection, testing, maintenance

6. Hydrants

- a. Fire protection and other uses
- b. Types of hydrants
- c. Making
- d. Flow test
- e. ISO requirements
- f. Maintenance/common deficiencies

7. Best practices

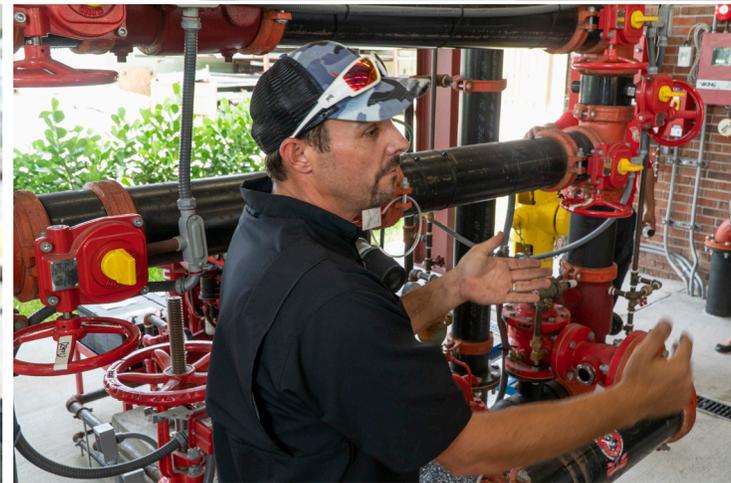
- a. Hands on training
- b. Demonstrate application of standards on real equipment
- c. Sprinklermatic University hands on training center equipped with underground piping, backflow preventer, and hydrants

EVALUATION

Students will discuss the underground piping and public water system. Student will inspect, test, and perform maintenance on the backflow preventer. Students will identify types of hydrants and perform an inspection meeting ISO requirement.

OUTSIDE ASSIGNMENT

Student will identify hydrants in their respective AHJs and determine flow capabilities through marking systems. Students will also be able to identify any deficiencies with hydrants in their respective AHJs. Students will identify backflow preventers in their AHJs.





CONTACT US TODAY
24-hour Emergency Service
877-327-7823

LOCATIONS

Davie, FL - Phone: 954-327-3686
Tampa, FL - Phone: 813-508-2776



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