

FIRE PROTECTION TECHNOLOGY CERTIFICATE PROGRAM CURRICULUM

Core Requirements: Four Courses are Required

CEAT CONTINUING EDUCATION
(405) 744-5714

-or-

INDEPENDENT STUDY
(405) 744-6390

Continuing Education Credit Only

College Credit (FPST) or Continuing Education Credit (ISC)

<input type="checkbox"/> Basic Principles of Automatic Fire Sprinkler Protection	<input type="checkbox"/> FPST 2050 – Basic Principles of Automatic Fire Sprinkler Protection <input type="checkbox"/> ICS 2050 – Basic Principles of Automatic Fire Sprinkler Protection
<input type="checkbox"/> Fire Protection Hydraulics and Water Supply Analysis	<input type="checkbox"/> FPST 2483 – Fire Protection Hydraulics and Water Supply Analysis <input type="checkbox"/> ICS 2483 – Fire Protection Hydraulics and Water Supply Analysis
<input type="checkbox"/> Hydraulic Calculations of Automatic Sprinkler Systems	<input type="checkbox"/> FPST 3713 – Hydraulic Design of Automatic Sprinkler Systems
<input type="checkbox"/> ① Life Safety Code	<input type="checkbox"/> FPST/ICS 4050.1 – Structural Designs for Fire and Life Safety
<input type="checkbox"/> ① Fire Protection Requirements of the International Building Code	Not Currently Available
<input type="checkbox"/> ② Inspection, Testing & Maintenance of Automatic Sprinkler Systems	Not Currently Available
<input type="checkbox"/> ② Fire Sprinkler Inspection Training and Certificate Program	Not Currently Available
For courses designated by ① or ②, only one course from each group may be used to complete the four course requirement for Required Courses.	

Electives: Two Courses are Required

<input type="checkbox"/> Fire Pump Applications, Inspection & Testing (Industrial Fire Pumps)	<input type="checkbox"/> FPST 3723 – Industrial Fire Pump Installations <input type="checkbox"/> ICS 3723 – Industrial Fire Pump Installations
<input type="checkbox"/> Design and Analysis of Residential Sprinkler Systems Plan and Review	Not Currently Available
<input type="checkbox"/> Review and Evaluation of Automatic Sprinkler System Plans and Designs	<input type="checkbox"/> ICS 0790 – Review & Evaluation of Automatic Sprinkler System Plans and Designs
<input type="checkbox"/> Property Loss Control for Insurance Property Specialists	Not Currently Available
<input type="checkbox"/> Fire Alarm & Detection Systems	Not Currently Available
<input type="checkbox"/> Analysis & Design of Sprinkler Systems for High Piled and Rack Storage	<input type="checkbox"/> FPST 3733 – Sprinkler System Design for High Piled and Rack Storage <input type="checkbox"/> ICS 3733 – Sprinkler System Design for High Piled and Rack Storage
<input type="checkbox"/> Advanced Fire Protection Hydraulics	Not Currently Available
<input type="checkbox"/> Basic Principles of Special Hazard Fire Extinguishing Systems	Not Currently Available

An Oklahoma State University certificate of completion is awarded to students who satisfactorily complete all the course requirements of the program. Upon verification of completion of all program requirements, the certificate, suitable for framing, will be mailed to you in a protective display folder.

The mission of the **Fire Protection Technology Certificate program** is to serve a wide variety of fire professionals by developing a well rounded curriculum which will allow individuals to become knowledgeable in the fire protection field, expand upon their current background in fire protection, and learn new technologies which will change fire protection and safety for the future. The program benefits include:

Helps prompt financial advancement
Explores new career opportunities

Promotes career advancement
Documents specialized study

CEAT CONTINUING EDUCATION COURSE DESCRIPTIONS

Basic Principles of Automatic Fire Sprinkler Protection

Expert instruction by OSU faculty takes you through design and installation provisions of NFPA 13 and gives a brief introduction to inspection, testing and maintenance guidelines of NFPA 25. This basic course is designed to help professionals understand and appreciate the value and prevailing standards of automatic sprinkler protection. This course also features an introduction to hydraulic calculations that are necessary for proper design and evaluation of automatic fire sprinklers.

Instructional Time: 16 hours

Continuing Education Credits: 1.6 CEUs

Fire Protection Hydraulics and Water Supply Analysis

This course training provides a solid foundation in fire protection hydraulics, with emphasis on testing and calculation procedures. Topics include; measuring water flow from nozzles and hydrants, conducting hydrant flow tests, and calculating water pressure losses due to evaluation and friction loss

Instructional Time: 16 hours

Continuing Education Credits: 1.6 CEUs

Hydraulic Calculation of Automatic Sprinkler Systems

Gain new insights into hydraulic behavior, and master the industry's preferred method of sprinkler system design. This two-day intensive seminar reviews key fundamentals while closely analyzing NFPA 13 provisions and presents a reliable 16 step hydraulic design process. This course will guide you through the mathematical calculations required for designing or evaluating hydraulically calculated systems and in the process presents a learn-by-doing format that features practical exercises, real life examples, and meaningful interaction among field professionals.

Instructional Time: 16 hours

Continuing Education Credits: 1.6 CEUs

Life Safety Code NFPA 101 ®

This practical Life Safety Code seminar engages fire and safety professionals in an environment that promotes better working knowledge, informed analysis, accurate interpretation, and realistic application of the Life Safety Code provisions and equivalents. By covering the new 2005 Edition of the Code chapter by chapter, and then by means of hands-on exercises, you will gain a greater understanding of how the Code is applied in specific circumstances.

Instructional Time: 20 hours

Continuing Education Credits: 2.0 CEUs

Fire Protection Requirements of the International Building Code

Since the first publication of the International Building Code in the year 2000, many cities, counties and states have adopted the International set of codes for use in their jurisdictions. This seminar will use the new 2006 edition as the basis of instruction and will concentrate on the provisions directed toward building fire safety. The course will provide a good foundation for those using the International Building Code as the basis for building design with respect to the fire protection requirements as well as for those with plan review and code enforcement responsibilities. Topics covered will include Use Group classifications, Construction classification, height and area limits, means of egress requirements and requirements for fire extinguishing and fire alarm and detection systems. The course is particularly suitable for providing professional development hours for professional engineers and architects and continuing education credit for those maintaining NICET certification.

Instructional Time: 16 hours

Continuing Education Credits: 1.6CEUs

Inspection, Testing & Maintenance of Automatic Sprinkler Systems

OSU's 16-hour workshop features hands-on laboratory training in our new fire sprinkler laboratory facilities to help bring your company into compliance with NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*. The agenda covers: Acceptance Tests, Visual Inspections, Functional Tests, Impairments & System Restoration, Component & Assembly Maintenance and Procedures & Practices. Learn how to apply the standard in the classroom, and then spend time in our state of the art laboratory facility applying the concepts covered in the classroom.

Instructional Time: 16 hours

Continuing Education Credits: 1.6 CEUs

Fire Sprinkler Inspection Training & Certificate Program

This joint effort between the American Fire Sprinkler Association and Oklahoma State University is a comprehensive program designed for fire sprinkler contractors. It takes the sprinkler inspector through the NFPA 13 and 25 requirements of proper inspection, testing, and maintenance of the most common types of automatic sprinkler systems. During this 24-hour course, students will be provided with classroom and laboratory sessions that have proven to be invaluable to past participants. The hands-on portions include: wet and dry valve operations, trip and main drain testing; resetting valves; flow testing of a hydrant; and fire pump testing.

Instructional Time: 24 hours

Continuing Education Credits: 2.4 CEUs

Fire Pump Applications, Inspection & Testing

OSU's two-day fire pump course addresses NFPA 20 provisions along with a thorough review of installations, applications, and standard inspection, testing, and maintenance procedures. The course provides a solid working knowledge of common pump types, various pump drivers, controllers, installation components, and accessories. Practical exercises and a live demonstration improve the student's ability to conduct field acceptance. Other topics include: routine installation testing, determining proper pump sizing, graphically analyzing pump performance, and implementing the correct inspection and maintenance procedures.

Instructional Time: 16 hours

Continuing Education Credits: 1.6 CEUs

Design and Analysis of Residential Sprinkler System Plans & Review

This course teaches participants techniques for designing automatic sprinkler systems for one and two-family dwellings and other residential properties up to four stories high, such as hotels and apartment buildings. Participants learn to apply plan review check lists for NFPA 13D and 13R designs. Featured topics include: Intro to NFPA 13D and 13R, water supplies and components, location and spacing of sprinklers, and hydraulic calculations of pipe sizing.

Instructional Time: 16 hours

Continuing Education Credits: 1.6 CEUs

Review & Evaluation of Automatic Sprinkler Systems Plans & Designs

Learn a step-by-step plan review procedure that results in consistent service, assures optimal fire protection capability, and complies with NFPA code 13. This two-day course presents a checklist approach that reduces the probability overlooking essential system design features. The course addresses both gridded and non-gridded systems, pipe schedules, hydraulic and computer assisted designs. Guided by NFPA 13, the course features practical exercises that promote confident analysis of sprinkler system designs that use hydraulic calculation techniques.

Instructional Time: 16 hours

Continuing Education Credits: 1.6 CEUs

Property Loss Control for Insurance Property Specialists

This 36-hour course features practical training that emphasizes testing and evaluation of fire suppression systems. Through classroom presentations, laboratory sessions, and field demonstrations, attendees will learn to evaluate fire protection systems, their components and designs in order to evaluate loss control risks in commercial and industrial buildings per NFPA standards. Key topics include: Water supplies, fire pumps, automatic sprinkler components and testing, sprinkler design techniques, alarm and detection systems, special hazards, and protection of warehouses.

Instructional Time: 36 hours

Continuing Education Credits: 3.6 CEUs

Fire Alarm & Detection Systems

This 20-hour OSU continuing education course features four hours of hands-on laboratory exercises and provides training on the application, installation, performance, and maintenance of protective fire alarm systems and components. The program acquaints participants with the requirements of NFPA 72 and provides essential hands-on training to reinforce the knowledge gained in the classroom.

Instructional Time: 20 hours

Continuing Education Credits: 2.0 CEUs

FIRE PROTECTION TECHNOLOGY CERTIFICATE PROGRAM

COURSE DESCRIPTIONS – continued

Analysis & Design of Sprinkler Systems for High Piled & Rack Storage

A recommended follow-up to Hydraulic Calculations, this course examines NFPA 13 requirements for the design of sprinkler system protection of high piled and rack storage. Students are trained to recognize proper design criterion for protection and warehouses. The program emphasizes proper classification of commodities and density selection based on storage heights and arrangements, sprinkler temperature ratings, and the presence or non-presence of in-rack sprinkler types. Topics include: Classification of Commodities, Design Densities for High Piled Storage, Protection of Plastics, Special Definitions, Impact of Large Drop, and ESFR Sprinklers.

Instructional Time: 8 hours

Continuing Education Credits: 0.8 CEUs

Advanced Fire Protection Hydraulics

This course is designed for those individuals who have already mastered the fundamentals of fire protection hydraulics and water supply analysis and are ready to take their education to the next level. Students should have knowledge of manual hydraulic calculation of sprinkler systems and water supply testing, fire pump applications and friction loss calculations before enrolling in this course. The topics addressed by this seminar will include the Darcy-Weisbach approach to calculating pipeline friction losses, calculating pressure losses to friction through looped and gridded piping systems, proper sizing of fire pumps, water supply safety factors, and hydraulic calculation of sprinkler systems using velocity pressures. This seminar should be particularly beneficial for those seeking Level III and IV NICET certification and for those seeking professional development hours to maintain professional registrations.

Instructional Time: 16 hours

Continuing Education Credits: 1.6 CEUs

Basic Principles of Special Hazard Fire Extinguishing Systems

This course provides an overview of special hazard systems for fire protection. Learn how the special systems work; their applications; the pertinent standards; design issues; and the major hardware, equipment and components.

The systems to be covered include:

Foam
Carbon dioxide
Water spray
Gaseous agents
Water mist systems

Instructional Time: 16 hours

Continuing Education Credits: 1.6 CEUs

INDEPENDENT STUDY COURSE DESCRIPTIONS

FPST/ICS 2050

An introduction to automatic sprinkler systems including system types and applications, important hardware components, water supplies, and inspection and testing considerations.

FPST 2050 – 3 Semester Credit Hours; 10 Assignments; 2 Exams

ICS 2050 – 5 CEUs; 10 Assignments; 2 Exams

FPST/ICS 2483

Fluid flow through pipes, pumps, and fire protection appliances. Water supply and distribution analysis using hydraulic calculations. Testing techniques to detect anomalies in design or performance capabilities.

FPST 2483 – 3 Semester Credit Hours; 11 Assignments; 1 Exam

ICS 2483 – 5 CEUs; 11 Assignments; 1 Exam

FPST 3713

Hydraulic calculation technique for the design and analysis of automatic sprinkler fire extinguishing systems.

3 Semester Credit Hours; 12 Assignments; 1 Exam

FPST 4050/ICS 4050.1

Building construction standards and codes to assure maximum life and property safety from fire, explosions, and natural disaster. Egress design specifications, occupancy and construction classifications, and fire protection requirements for building construction and materials.

FPST 4050 – 3 Semester Credit Hours; 14 Assignments; 1 Exam

ICS 4050.1 – 5 CEUs; 14 Assignments; 1 Exam

FPST/ICS 3723

Applications, designs, and analysis of industrial fire pump installations. Graphical analysis of fire pump contributions to existing fire protection water supply systems emphasized. Familiarity with basics of automatic sprinkler protection as well as standpipe and hose systems helpful in order to complete course. Designed to help fire protection specialists determine under what conditions fire pumps are needed and how to install, maintain, test and inspect such installations.

FPST 3723 – 3 Semester Credit Hours; 10 Assignments; 1 Exam

ICS 3723 – 5 CEUs; 10 Assignments; 1 Exam

ICS 0790

The objective of this course is to develop basic skills in sprinkler plan review for fire marshals, insurance industry employees and those with fire protection responsibilities in business and industry. Should already understand the composition of a sprinkler systems and its purpose.

ICS 0790 – 5 CEUs; 10 Assignments; 2 Exams

FPST/ICS 3733

Specific design techniques for sprinkler systems protection of commodities stored in solid piles and racks over 12 feet in height. A working knowledge of hydraulic design and calculation process is necessary in order to complete this course.

FPST 3733 – 3 Semester Credit Hours; 10 Assignments; 1 Exam

ICS 3733 – 5 CEUs; 10 Assignments; 1 Exam

Additional Information about the Fire Protection Technology Certificate

Program and other offerings can be found at the following sites:

CEAT Continuing Education - <http://fire.ceat.okstate.edu/>

Independent Study – <http://ueied.ue.okstate.edu/ics/index.asp>