FIRE PROTECTION TECHNOLOGY CERTIFICATE PROGRAM

SPONSORED JOINTLY BY:
OKLAHOMA STATE UNIVERSITY
CEAT PROFESSIONAL DEVELOPMENT and
CORRESPONDENCE EDUCATION

Oklahoma State University has numerous courses addressing today’s rapidly expanding and constantly progressing fire service industry. Whether you are seeking to increase your knowledge or explore the opportunities in Fire Protection, OSU CEAT Professional Development, in conjunction with Correspondence Education, is offering a Fire Protection Technology Certificate program.

Oklahoma State University is the renowned leader in Fire Service Training and Fire Protection Technology. This 4 year certificate program intensely examines the intricacies of fire service prevention and protection. You will receive training for various career activities, including:

- Automatic Fire Sprinkler Safety
- Industrial Safety
- Fire Investigation

- Hydraulics
- Loss Control
- Fire Prevention
FIRE PROTECTION TECHNOLOGY
CERTIFICATE PROGRAM REQUIREMENTS

COMPLETION VERIFICATION FORM

To complete the program, four core courses and two electives must be completed. Each course may be completed through CEAT Professional Development or OSU Correspondence Education. Completion of a course from either provider shall satisfy that course requirement. Maximum completion time is four years from the date of application enrolling in the program.

CEAT Professional Development courses may be offered on or off campus in short course format, which includes personal travel. However, CEAT Professional Development now offers several courses online where you can complete the course at your own pace by distance learning. Correspondence Education Courses are individual study classes that employ a variety of instructional media from a distance. The exact combination of instructional media used varies with each course.

Correspondence Education Courses may be taken for either College Credit (FPST) or Continuing Education Credit (ICS). When enrolling you must stipulate which type of credit you want. If no specification is made, you will be enrolled for college credit. All CEAT Professional Development Programs are for Continuing Education Credits only and NO College Credit is available.

Core Requirements:
Four Courses are Required

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<tr>
<th>CEAT PROFESSIONAL DEVELOPMENT</th>
<th>CORRESPONDENCE EDUCATION</th>
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<tr>
<td>(405) 744-5714</td>
<td>(405) 744-6390</td>
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<tr>
<td>Continuing Education Credit Only</td>
<td>College Credit (FPST) or Continuing Education Credit (ICS)</td>
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- [ ] Basic Principles of Automatic Fire Sprinkler Protection
  - On-line
  - On-Campus
- [ ] Fire Protection Hydraulics and Water Supply Analysis
  - On-line
  - On-Campus
- [ ] Hydraulic Calculations of Automatic Sprinkler Systems
  - On-line
  - On-Campus
- [ ] Life Safety Code
  - On-line
  - On-Campus
- [ ] Fire Protection Requirements of the International Building Code
  - On-line
  - On-Campus
- [ ] Inspection, Testing & Maintenance of Automatic Sprinkler Systems*
- [ ] Sprinkler Inspection Training and Certificate Program*

For courses designated by ☐ or ☑, only one course from each group may be used to complete the four course requirement for Required Courses.
*Only available on-campus

Electives:
Two Courses are Required

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<tr>
<td>(Industrial Fire Pumps)*</td>
<td>ICS 2050 – Basic Principles of Automatic Fire Sprinkler Protection</td>
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<tr>
<td>Design and Analysis of Residential Sprinkler Systems Plan and Review*</td>
<td>FPST 2483 – Fire Protection Hydraulics and Water Supply Analysis</td>
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<tr>
<td>Review and Evaluation of Automatic Sprinkler System Plans and Designs</td>
<td>ICS 2483 – Fire Protection Hydraulics and Water Supply Analysis</td>
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<td>Property Loss Control for Insurance Property Specialists*</td>
<td>FPST 3713 – Hydraulic Design of Automatic Sprinkler Systems</td>
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<tr>
<td>Fire Alarm &amp; Detection Systems*</td>
<td>FPST/ICS 4050.1 – Structural Designs for Fire and Life Safety</td>
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<tr>
<td>Analysis &amp; Design of Sprinkler Systems for High Piled and Rack Storage</td>
<td>Not Currently Available</td>
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<tr>
<td>Basic Principles of Special Hazard Fire Extinguishing Systems*</td>
<td>Not Currently Available</td>
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<tr>
<td>Basic Principles of Fire Investigation</td>
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<td>Inspection, Testing &amp; Maintenance of Pre-Action &amp; Deluge Systems*</td>
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<td>Advanced Hydraulics*</td>
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<tr>
<td>Fatality Fire Investigation*</td>
<td>Not Currently Available</td>
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*Only available on-campus
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 PROFESSIONAL DEVELOPMENT

**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 ad calculation procedures. Topics include: measuring water flow from nozzles and hydrants, conducting hydrant flow tests, and calculating water flow losses due to evaluation and friction loss.

**Instructional Time:** 16 hours
**Continuing Education Credits:** 1.6 CEUs

**Hydraulic Calculations 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 newest 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 newest 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

**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 or 20 hours
**Continuing Education Credits:** 1.6 CEUs or 2.0 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 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, attendants 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
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

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 and water mist systems
Instructional Time: 16 hours
Continuing Education Credits: 1.6 CEUs

Basic Principles of Fire Investigation
This course covers state of the art investigation practices for individuals, while also providing new concepts for those familiar with fire investigation. Students will be able to inspect and evaluate fire scenes, determine area of origin, the ignition source, the materials first ignited and the ignition sequence of the fire. Students will learn to prepare diagrams, record the fire scene with photographic documentation and establish field notes of the incident site. This course provides information that will allow students to make presentations in legal settings, as well as aid in the preparation of fire investigation reports.
Instructional Time: 40 hours
Continuing Education Credits: 4.0 CEUs

Inspection, Testing & Maintenance of Pre-Action & Deluge Systems
OSU will present a one day workshop, which will feature a classroom presentation and discussion followed by demonstrations and hands-on equipment training. The workshop agenda will cover visual inspections, functional tests, impairments and system restoration, component and assembly maintenance along with procedure and practices.
Instructional Time: 8 hours
Continuing Education Credits: 0.8 CEUs

Advanced Hydraulics
Individuals aspiring to reach Level IV NICET Certification and those hoping to become registered fire protection engineers are often faced with complicated hydraulics questions during the examination process. This seminar is designed to prepare participants to attack these exam questions and to provide an understanding of the mathematics used as the basis for computer programs that provide assistance in designing water supply systems, sprinkler systems, foam systems and water spray systems. Students should understand basic hydraulic calculations for sprinkler systems and have experience using the Hazen-Williams formula. Topics covered in this seminar include the following: Calculating pressure loss due to friction across simple loops, the Hardy-Cross technique for calculating losses in gridded piping systems, hydraulic calculation of sprinkler systems using velocity pressures and calculating pressure loss due to friction using the Darcy-Weisbach method.
Instructional Time: 16 hours
Continuing Education Credits: 1.6 CEUs

Fatality Fire Investigation
Insure thoroughness of the investigation and to comply with requirements that may bear on the outcome of the investigation. Upon successful completion of the course the students will have been provided the skills and knowledge to: know the scientific methodology of fire investigation, determine the proper sequence for the investigation of a fatality fire, establish scene security and accountability, document the location of the body, explain the importance of the victim’s location, position and appearance and have an understanding of the two types of investigations required in a fatality fire investigation.
Instructional Time: 16 hours
Continuing Education Credits: 1.6 CEUs

ADMNISTRATION REQUIREMENTS
No application will be accepted from students who are currently enrolled in OSU resident credit courses. Admission to Oklahoma State University is not a requirement for enrolling in the certificate program. Formal educational background is not necessary, as long as you are able to engage meaningfully in a learning process that relies mainly on written communication. Some courses assume a basic knowledge of math and science as noted in course descriptions.

APPLICATION PROCEDURE
Please type or print legibly the information requested on the program application form and submit it with a non-refundable application fee of $95.00, payable at the time of enrollment. Individual course costs vary by course and provider. Please keep track of your progress in the program using the pink completion verification form. Once you have completed the required courses, please fax (405) 744-5369 or mail the completion verification form to the CEAT Professional Development Department Attn: Brandy Mays, 505 Engineering North, Stillwater, OK 74078.
PLEASE TYPE OR PRINT CLEARLY THE INFORMATION REQUESTED.
A NON-REFUNDABLE PROGRAM APPLICATION FEE OF $95.00 MUST ACCOMPANY THIS APPLICATION.
PLEASE NOTIFY CEAT PROFESSIONAL DEVELOPMENT OF ANY ADDRESS CHANGES/UPDATES.

Name:

Company:  
Title:  

Address:  

City:  State:  Zip:  

Phone:  Fax:  Email:  

Oklahoma State University Classes Attended/Completed in the Last Year:

Method of Payment:

☐ Check (payable to OSU CEAT Professional Development)
☐ Money Order (payable to OSU CEAT Professional Development)
☐ MC/Visa#: Call with Card Information or go to http://fire.ceat.okstate.edu and register on-line.

Oklahoma State University is the sole sponsoring entity for this Fire Protection Certificate program and therefore does not claim accreditation or certification under any other pretenses where Fire Protection Certificate is concerned. We have the right to change course instructors, to revise courses and change textbooks, to discontinue courses, and to adjust tuition and materials expense listed as circumstances warrant.

By signing below, I understand and agree to the guidelines of this program. I also understand that Oklahoma State University is the sole sponsoring entity offering this certificate program and does not claim accreditation or certification under other pretenses where this certificate is concerned.

Applicant’s Signature: _____________________________________________  Date: ________________________________________