



**OFFICE OF THE STATE FIRE MARSHAL
STATEWIDE TRAINING AND EDUCATION ADVISORY COMMITTEE
DEPARTMENT OF FORESTRY AND FIRE PROTECTION**

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Date: September 21, 2016

Attachment 3

To: Ronny J. Coleman, Chairman
c/o State Fire Training
1131 S. Street,
Sacramento, California 95811

From: Mark Romer, Fire Service Training Specialist, State Fire Training

Subject/Agenda Action Item: 2016 Fire Investigator Standards and Curriculum

Recommended Actions: Information/Discussion

Background Information:

The Fire Investigator I certification level was established in January 1, 1981 and the level II was established in September 1, 1986.

The Fire Investigator 1 certification track requires that a person complete the course of study which consists of two courses:

1. Fire Investigation 1A - last revised in 2011
2. Fire Investigation 1B - last revised in 2000
3. PC832 Arrest, Search and Seizure

In addition to the completion of these three courses the person must have 1 year full time experience as fire investigator either in a fire agency or law enforcement agency within the State, or be a full time firefighter with responsibilities for origin and cause on at minimum of 100 fires.

The Fire Investigator II certification track requires that a person complete the course of study which consists of two courses:

1. Fire Investigation 2A - last revised in 1989
2. Fire Investigation 2B – has never been revised

In addition to the completion of these two courses the person must be must have 2 years full time experience as fire investigator either in a fire agency or law enforcement agency within the State, or a full time firefighter with responsibilities for origin and cause on a minimum of 150 fires and must have also qualified as an expert witness in a court room. This requirement of having to have qualified as an expert witness has been a large stumbling block that has kept many fire service personnel from obtaining this level of certification.

Analysis/Summary of Issue:

In January of this year a cadre was formed to look at the Fire Investigator curriculum and tracks. The cadre consisted of fire investigators and a deputy District Attorney. The cadre used the most current edition of NFPA 1033 Standard for Fire Investigator Professional Qualifications. In our analysis the first item that stood out was that NFPA only identified one level within the standard, we used this as our guiding principle as we developed both the curriculum and certification track. One of the other principles we used was if there were other curriculums available we would use them.

The new certification track will only contain one level and curriculum now includes the following courses, SFT curriculum.

Each of these courses also now has corequisites as part of the course work

- Fire Investigation 1A – Basic Fire Investigation
 - Basic Electricity (CFITrainer.net)
 - Ethics and the Fire Investigator (CFITrainer.net)
- Fire Investigation 1B – Evidence and Documentation
 - Introduction to Evidence (CFITrainer.net)
- Fire Investigation 1C – Preparation for Legal Proceedings
 - Motive, Means, and Opportunity: Determining Responsibility in an Arson Case (CFITrainer.net)

Other curriculum used within the certification track

- PC832 – Arrest, search and Seizure
- Post interview and interrogation
- NWCG FI-210 Wildland Fire Origin and Cause Determination

The certification process for Fire Investigator will also include the completion of a task within the task book in which the candidate must be the primary investigator and investigate a minimum of 20 fires 10 of which must be structure fires. Also within the task book there is the JPR (4.7.3) that requires a candidate to testify at a legal proceeding. If a candidate is unable to fulfill this JPR due in large part that they may never reach the court room then they may take one of the following courses to satisfy the requirement.

- (1) CCAI course – Expert Witness Testimony
- (2) IAAI course – Expert Witness Courtroom Testimony
- (3) NFA course – Interview Interrogation Techniques and Courtroom Testimony

It was the recommendation of the cadre to allow any of these courses to be used so as to stop anyone from being able to receive certification and that the course work involve would meet this requirement.

In the future a certification examination that will consist of both written exam and skills testing will part of this process.



FIRE INVESTIGATOR Certification Task Book Application



Identification

Candidate: _____

SFT ID Number: _____

Mailing Address: _____

Phone (Home): _____ Phone (Mobile): _____

Phone (Work): _____ Email: _____

Agency: _____

Mailing Address: _____

How would you prefer to receive your certification task book?

- Email (to address listed above)
- US mail (to home mailing address)

Instructions

1. To apply for a certification task book, download (from the SFT website) and print:
 - a. The SFT Fee Schedule
 - b. The certification task book application for the job function certification being pursued
2. On the SFT Fee Schedule:
 - a. Check the box indicating the desired job function certification
 - b. Write in the Total Submitted amount
 - c. Complete the bottom portion
 - d. Sign and date
3. Complete the certification task book application (this document) and attach all supporting and verification documentation.

4. A complete certification task book application package includes:
 - a. The SFT Fee Schedule
 - b. Nonrefundable payment by check or money order (payable to CAL FIRE – State Fire Training)
 - c. The certification task book application
 - d. All supporting and verification documentation

5. Submit the complete certification task book application package to:

State Fire Training
Attn: Cashier
PO Box 997446
Sacramento, CA 95899-7446

Prerequisites

Training

1. Document the granting agency/institution and completion date.
2. Submit verification for any training or course offered by an agency other than State Fire Training.

Training/Course	Granting Agency/Institution	Completion Date (listed on certificate)
Basic Electricity	CFITrainer.net	
Ethics and the Fire Investigator	CFITrainer.net	
Introduction to Evidence	CFITrainer.net	
Motive, Means, and Opportunity: Determining Responsibility in an Arson Case	CFITrainer.net	
POST certified PC 832 Arrest #80102 (40 hours)	POST	
POST certified Interview and Interrogation course #31445 (40 hours)	POST	
NWCG FI210 Wildland Fire Origin and Cause Determination(36 hours)		

Education

1. Document the completion of each required course.
2. Submit verification of course completion (transcript, PACE equivalency letter, certification of completion, etc.) for any course completed outside of State Fire Training.

Course	Completion Date (listed on certificate)
Fire Investigation 1A: Basic Fire Investigation	
Fire Investigation 1B: Evidence and Documentation	
Fire Investigation 1C: Preparation for Legal Proceedings	

Certification Exam

1. Document the examination date and your score.
2. Submit verification of certification exam completion for any exam offered by an agency, institution, or organization other than State Fire Training.

Exam	Examination Date	Score
None		

State Fire Training confirms that there is no Certification Exam requirement for acquiring this certification task book at this time.

Approval and Authorization

This section is for State Fire Training use only.

Incomplete Application

- The candidate has not met all application requirements and will be notified of missing or incomplete items (including fees) in writing with a checklist for completion.

State Fire Training Representative's Signature

Date

Complete Application

- The candidate has met all application requirements and will be issued a certification task book.

State Fire Training Representative's Signature

Date

Fire Investigator

Certification Task Book [Month Year]



California Department of Forestry and Fire Protection
Office of the State Fire Marshal
State Fire Training

Fire Investigator

Certification Task Book [Month Year]

Candidate: [Click here to enter text.](#)

SFT ID Number: [Click here to enter text.](#)

Fire Agency: [Click here to enter text.](#)

Issued By: [Click here to enter text.](#)

Issue Date: [Click here to enter text.](#)

This Certification Task Book includes the certification training standards included in Fire Investigator CTS Guide ([Month Year]) which is based on *NFPA 1033 Standard for Fire Investigator Professional Qualifications* (2014).

Published by:
State Fire Training, 1131 S Street, Sacramento, CA 95811
(916) 445-8200

Cover photo courtesy of [name, organization]

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Purpose and Process

The State Fire Training certification task book is a performance-based document. It lists the Experience, Rank or Position, and Job Performance requirements for certification.

Purpose

Each certification task book focuses on a single State Fire Training job function certification. A certification task book identifies the minimum requirements necessary to perform the duties of that certification. Completion of a certification task book verifies that the candidate has the required experience, holds the required rank or position, and has demonstrated the job performance requirements necessary to obtain that certification.

Responsibilities

Candidate Responsibilities

The candidate is the individual pursuing certification.

All candidates shall:

- Complete a block on the Signature Verification page with an original wet-ink signature.
- Complete the Experience, Rank, and Job Performance Requirements.
- Accurately record and maintain the certification task book.
- Sign and date the Candidate verification statement under the Authorities with an original wet-ink signature.
- Retain a copy of the completed certification task book.
- Submit the completed certification task book to State Fire Training.

Evaluator Responsibilities

An evaluator is any individual who verifies that the candidate can satisfactorily execute a job performance requirement. A qualified evaluator is designated by the candidate's fire chief (or authorized designee) and shall possess the equivalent or higher-level certification. If no such evaluator is present within the organization, the fire chief (or authorized designee) shall designate an individual with more experience than the candidate and a demonstrated ability to execute the job performance requirements. A certification task book may have more than one evaluator.

All evaluators shall:

- Complete a block on the Signature Verification page with an original wet-ink signature.
- Review and understand the candidate's certification task book requirements and responsibilities.

Purpose and Process

- Verify the candidate's successful completion of one or more job performance requirements through observation or review.
- Sign all appropriate lines in the certification task book with an original wet-ink signature to record demonstrated performance of tasks.

Fire Chief Responsibilities

The fire chief (or authorized designee) is the individual who reviews and confirms the completion of a candidate's certification task book.

The fire chief (or authorized designee) shall:

- Designate qualified evaluators.
- Complete a block on the Signature Verification page with an original wet-ink signature.
- Review the candidate's certification task book requirements and responsibilities.
- Verify the candidate has obtained the appropriate signatures to verify successful completion of each job performance requirement.
- Sign the fire chief verification statement under Authorities with an original wet-ink signature. If signing as an authorized designee, verify that your signature is on file with State Fire Training.

Completion Process

When you receive your certification task book:

1. Thoroughly review the Experience, Rank, and Job Performance Requirements segments to make sure that you understand them.
2. Confirm who will evaluate your job performance requirements with your fire agency.
3. Complete the Experience segment, if applicable.
4. Complete the Rank or Position segment.
5. Complete each requirement in the Job Performance Requirements segment and ensure that an evaluator signs and dates each one to verify completion.
6. Ask your fire chief (or authorized designee) to verify certification task book completion by signing the appropriate paragraph under Authorities.
7. Make a copy of the completed certification task book to retain with your personal records.
8. Mail the original certification task book to State Fire Training (see address below).

After receipt and review of your completed certification task book, State Fire Training will authorize the certification task book and mail your certificate to you. State Fire Training retains the completed, authorized original certification task book in your career file.

Purpose and Process

If State Fire Training determines that your certification task book is incomplete State Fire Training will return your certification task book with a checklist indicating what needs to be completed.

Do not submit this certification task book until you have:

- **Completed the Experience segment**
- **Fulfilled the Rank or Position segment**
- **Completed Job Performance Requirements**
- **Obtained all required signatures**

State Fire Training Mailing Address

Office of the State Fire Marshal
State Fire Training
Attn: Certification Section
1131 S Street
Sacramento, CA 95811

Completion Timeframe

State Fire Training aims to update certification task books on a five-year cycle. A certification task book in process is valid until State Fire Training issues a new certification task book for the same job function certification.

If a candidate does not complete a certification task book before the release of a new version, State Fire Training will send the candidate a task book revision supplement identifying any revisions or new requirements. The candidate must fulfill all requirements included in the revision supplement and submit the revision supplement with the original task book.

Task Book Requirements

Experience

The candidate meets the following requirements for experience.

- Have a minimum of two (2) year full-time, paid experience in a California fire department with the primary responsibility as a fire investigator

Or

- Have a minimum of four (4) years volunteer or part-time, paid experience in a California fire department with the primary responsibility as a fire investigator

Assignment	Agency	Start Date	End Date

Please attach additional pages if more space is needed to document experience.

Investigate 20 fires, 10 must be structure fires, as the primary investigator and develop complete fire investigation reports.

Type of Fire	Incident/Report #	Date	Location	Evaluator Verification

Job Performance Requirements

All job performance requirements must be performed in accordance with the standards of the authority having jurisdiction (AHJ) or the National Fire Protection Association (NFPA), whichever is more restrictive.

Wildland Fire Investigation

1. **[OSFM]** Investigate a wildland fire ensuring wildland fire investigation methods are used, evidence is collected and documented, and the laws, regulations, and related court procedures associated with administrative, civil, and criminal litigation processes are followed.

Date Completed	Evaluator Verification
----------------	------------------------

Scene Examination

2. **[4.2.1]** Secure the fire ground, given marking devices, sufficient personnel, and special tools and equipment, so that unauthorized persons can recognize the perimeters of the investigative scene and are kept from restricted areas and all evidence or potential evidence is protected from damage or destruction.

Date Completed	Evaluator Verification
----------------	------------------------

3. **[4.2.2]** Conduct an exterior survey, given standard equipment and tools, so that evidence is identified and preserved, fire damage is interpreted, hazards are identified to avoid injuries, accessibility to the property is determined, and all potential means of ingress and egress are discovered.

Date Completed	Evaluator Verification
----------------	------------------------

4. **[4.2.3]** Conduct an interior survey, given standard equipment and tools, so that areas of potential evidentiary value requiring further examination are identified and preserved, the evidentiary value of contents is determined, and hazards are identified in order to avoid injuries.

Date Completed	Evaluator Verification
----------------	------------------------

5. **[4.2.4]** Interpret fire patterns, given standard equipment and tools and some structural or content remains, so that each individual pattern is evaluated with respect to the burning characteristics of the material involved and in context and relationship with all patterns observed and the mechanisms of heat transfer that led to the formation of the pattern.

Date Completed

Evaluator Verification

6. **[4.2.5]** Interpret and analyze fire patterns, given standard equipment and tools and some structural or content remains, so that fire development is determined, methods and effects of suppression are evaluated, false origin area patterns are recognized, and all areas of origin are correctly identified.

Date Completed

Evaluator Verification

7. **[4.2.6]** Examine and remove fire debris, given standard equipment and tools, so that all debris is checked for fire cause evidence, potential ignition source(s) is identified, and evidence is preserved without investigator-inflicted damage or contamination.

Date Completed

Evaluator Verification

8. **[4.2.7]** Reconstruct the area of origin, given standard and, if needed, special equipment and tools as well as sufficient personnel, so that all protected areas and fire patterns are identified and correlated to contents or structural remains, items potentially critical to cause determination and photo documentation are returned to their prefire location, and the area(s) or point(s) of origin is discovered.

Date Completed

Evaluator Verification

9. **[4.2.8]** Inspect the performance of building systems, including detection, suppression, HVAC, utilities, and building compartmentation, given standard and special equipment and tools, so that a determination can be made as to the need for expert resources, an operating system's impact on fire growth and spread is considered in identifying origin areas, defeated and/or failed systems are identified, and the system's potential as a fire cause is recognized.

Date Completed

Evaluator Verification

10. **[4.2.9]** Discriminate the effects of explosions from other types of damage, given standard equipment and tools, so that an explosion is identified and its evidence is preserved.

Date Completed

Evaluator Verification

Scene Documentation

11. **[4.3.1]** Diagram the scene, given standard tools and equipment, so that the scene is accurately represented and evidence, pertinent contents, significant patterns, and area(s) or point(s) of origin are identified.

Date Completed

Evaluator Verification

12. **[4.3.2]** Photographically document the scene, given standard tools and equipment, so that the scene is accurately depicted and the photographs support scene findings.

Date Completed

Evaluator Verification

13. **[4.3.3]** Construct investigative notes, given a fire scene, available documents (e.g., prefire plans and inspection reports), and interview information, so that the notes are accurate, provide further documentation of the scene, and represent complete documentation of the scene findings.

Date Completed

Evaluator Verification**Evidence Collection/Preservation**

14. **[4.4.1]** Utilize proper procedures for managing victims and fatalities, given a protocol and appropriate personnel, so that all evidence is discovered and preserved and the protocol procedures are followed.

Date Completed

Evaluator Verification

15. **[4.4.2]** Locate, document, collect, label, package, and store evidence, given standard or special tools and equipment and evidence collection materials, so that it is properly identified, preserved, collected, packaged, and stored for use in testing, legal, or other proceedings and examinations, ensuring cross contamination and investigator-inflicted damage to evidentiary items is avoided and the chain of custody is established.

Date Completed

Evaluator Verification

16. **[4.4.3]** Select evidence for analysis, given all information from the investigation, so that items for analysis support specific investigation needs.

Date Completed

Evaluator Verification

17. **[4.4.4]** Maintain a chain of custody, given standard investigative tools, marking tools, and evidence tags or logs, so that written documentation exists for each piece of evidence and evidence is secured.

Date Completed

Evaluator Verification

18. **[4.4.5]** Dispose of evidence, given jurisdictional or agency regulations and file information, so that the disposal is timely, safely conducted, and in compliance with jurisdictional or agency requirements.

Date Completed

Evaluator Verification

Interview

19. **[4.5.1]** Develop an interview plan, given no special tools or equipment, so that the plan reflects a strategy to further determine the fire cause and affix responsibility and includes a relevant questioning strategy for each individual to be interviewed that promotes the efficient use of the investigator's time.

Date Completed

Evaluator Verification

20. **[4.5.2]** Conduct interviews, given incident information, so that pertinent information is obtained, follow-up questions are asked, responses to all questions are elicited, and the response to each question is documented accurately.

Date Completed

Evaluator Verification

21. **[4.5.3]** Evaluate interview information, given interview transcripts or notes and incident data, so that all interview data is individually analyzed and correlated with all other interviews, corroborative and conflictive information is documented, and new leads are developed.

Date Completed

Evaluator Verification

Post Incident Investigation

22. **[4.6.1]** Gather reports and records, given no special tools, equipment, or materials, so that all gathered documents are applicable to the investigation, complete, and authentic; the chain of custody is maintained; and the material is admissible in a legal proceeding.

Date Completed

Evaluator Verification

23. **[4.6.2]** Evaluate the investigative file, given all available file information, so that areas for further investigation are identified, the relationship between gathered documents and information is interpreted, and corroborative evidence and information discrepancies are discovered.

Date Completed

Evaluator Verification

24. **[4.6.3]** Coordinate expert resources, given the investigative file, reports, and documents, so that the expert's competencies are matched to the specific investigation needs, financial expenditures are justified, and utilization clearly furthers the investigative goals of determining cause or affixing responsibility.

Date Completed

Evaluator Verification

25. **[4.6.4]** Establish evidence as to motive and/or opportunity, given an incendiary fire, so that the evidence is supported by documentation and meets the evidentiary requirements of the jurisdiction.

Date Completed

Evaluator Verification

26. **[4.6.5]** Formulate an opinion concerning origin, cause, or responsibility for the fire, given all investigative findings, so that the opinion regarding origin, cause, or responsibility for a fire is supported by the data, facts, records, reports, documents, and evidence.

Date Completed

Evaluator Verification

Presentation

27. **[4.7.1]** Prepare a written report, given investigative findings, documentation, and a specific audience, so that the report accurately reflects the investigative findings, is concise, expresses the investigator's opinion, contains facts and data that the investigator relies on in rendering an opinion, contains the reasoning of the investigator by which each opinion was reached, and meets the needs or requirements of the intended audience(s).

Date Completed

Evaluator Verification

28. **[4.7.2]** Express investigative findings verbally, given investigative findings, notes, a time allotment, and a specific audience, so that the information is accurate, the presentation is completed within the allotted time, and the presentation includes only need-to-know information for the intended audience.

Date Completed

Evaluator Verification

29. **[4.7.3]** Testify during a legal proceeding, given investigative findings, contents of reports, and consultation with legal counsel, so that all pertinent investigative information and evidence are presented clearly and accurately and the investigator’s demeanor and attire are appropriate to the proceedings.

Date Completed

Evaluator Verification

Successful completion of one (1) of the following three (3) classes can meet this JPR (#29):

(1) CCAI course – Expert Witness Testimony

Date Completed

Evaluator Verification

(2) IAAI course – Expert Witness Courtroom Testimony

Date Completed

Evaluator Verification

(3) NFA course – Interview Interrogation Techniques and Courtroom Testimony

Date Completed

Evaluator Verification

Signature Verification

The following individuals have the authority to verify portions of this certification task book using the signature or initials recorded below.

Name: _____ (print)

Job Title: _____ (print)

Organization: _____ (print)

Signature: _____ (sign)

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Fire Investigator Series

Course Layout and Prerequisites

October 2016

Certification Title	FIRE INVESTIGATOR					
Courses Required	Basic Fire Investigation	Evidence and Documentation	Preparation for Legal Proceedings	POST certified PC 832(a) Arrest #80102	POST Interview and Interrogation #31445	NWCG FI-210 Wildland Fire Origin and Cause Determination
CTS Correlation	Section 1	Sections 2 and 3, 6-1	Section 5, 6-2, 6-3	6-3	4-1, 4-2, 4-3	7-1
Short Title	Fire Investigation 1A	Fire Investigation 1B	Fire Investigation 1C			
Course Hours	39:30	33:30	40:00	40:00	40:00	36:00
Instructor/Student Ratio:	Lecture: 1:40 Activity: 1:10	1:40	1:24			
Prerequisite Course(s)	Fire Behavior and Combustion (California Community College core curriculum)	Fire Investigation 1A: Basic Fire Investigation	Fire Investigation 1A: Basic Fire Investigation Fire Investigation 1B: Evidence and Documentation			
Corequisite Course(s)	Basic Electricity (CFITrainer.net) Ethics and the Fire Investigator (CFITrainer.net)	Introduction to Evidence (CFITrainer.net)	Motive, Means, and Opportunity: Determining Responsibility in an Arson Case (CFITrainer.net) (CTS 5-4)			

Fire Investigator

Certification Training Standards Guide [Month Year]



California Department of Forestry and Fire Protection
Office of the State Fire Marshal
State Fire Training

Fire Investigator

Certification Training Standards Guide [Month Year]

This CTS guide utilizes *NFPA 1033 Standard for Fire Investigator Professional Qualifications* (2014) to provide the qualifications for State Fire Training's Fire Investigator certification.

State Fire Training coordinated the development of this CTS guide. Before its publication, the Statewide Training and Education Advisory Committee (STEAC) and the State Board of Fire Services (SBFS) recommended this CTS guide for adoption by the Office of the State Fire Marshal (OSFM).



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1131 S Street, Sacramento, CA 95811
(916) 445-8200

Cover photo courtesy of [name, organization]

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State Fire Training

Mission

To enable the California Fire Service to safely protect life and property through education, training, and certification.

The California Fire Services Training and Education System

The California Fire Service Training and Education System (CFSTES) was established to provide a single statewide focus for fire service training in California. CFSTES is a composite of all the elements that contribute to the development, delivery, and administration of training for the California fire service. The authority for the central coordination of this effort is vested in the Training Division of the California State Fire Marshal's Office with oversight provided by the State Board of Fire Services.

CFSTES facilitates, coordinates, and assists in the development and implementation of standards and certification for the California fire service. CFSTES:

1. Administers the California Fire Academy System
2. Provides accredited courses leading to certification and approved standardized training programs for local and regional delivery
3. Administers the national accreditation process in California
4. Publishes certification training standards, course plans, and a capstone task book for each certified level in the California fire service

CFSTES is a fire service system developed by the fire service, for the fire service. It is only as successful and effective as the people involved in it.

Acknowledgments

State Fire Training appreciates the hard work and accomplishments of those who built the solid foundation on which this program continues to grow.

State Fire Training gratefully acknowledges the following individuals and organizations for their diligent efforts and contributions that made the development and publication of this document possible.

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Sacramento State

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Tom Oldag

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*Deputy District Attorney, Calaveras County
Fire Chief, Central Calaveras Fire District*

Partners

State Fire Training also extends special acknowledgement and appreciation to the Conference and Training Services Unit with the College of Continuing Education at California State University, Sacramento, for its ongoing meeting logistics and curriculum development support, innovative ideas, and forward-thinking services. This collaboration is made possible through an interagency agreement between CAL FIRE and Sacramento State.

How to Read a CTS Guide

State Fire Training develops a Certification Training Standards (CTS) Guide for a variety of job functions in the fire service such as firefighter, driver/operator, fire instructor, and company officer. The CTS guide lists the requisite knowledge and skills and the job performance requirements a person is expected to complete in order to become certified in a specific function. CTS guides are appropriate for fire service personnel and individuals in related occupations pursuing State Fire Training certification.

Each CTS guide serves as a foundation for the certification programs recommended for adoption by the Office of the State Fire Marshal. Any certification program must be based on job-related knowledge and measurable performance standards. To master the knowledge and skills needed for specialized operations, individuals will require additional training to augment the performance standards included in the CTS guide.

Within the CTS guide, it is impossible to capture the different policies and procedures of each organization in the California fire service. Individuals aspiring to meet State Fire Training's certification training standards must do so in accordance with the codes, standards, regulations, policies, and standard operating procedures applicable within their own departments or jurisdictions.

Format

Each certification training standard included in the CTS guide includes the following:

Section Heading

The section heading describes a general category for a group of training standards. For example, the Fire Marshal CTS includes the following sections: Administration, Risk Management, Community Relations, Professional Development, Regulatory Programs, Fire and Life Safety, and Investigation. Each section contains one or more individual training standards.

Training Standard Title

The training standard title provides a general description of the performance requirement contained within the standard.

Authority

The CTS guide references each standard with one or more paragraphs of the corresponding National Fire Protection Association (NFPA) Professional Qualifications. This ensures that each fire service function within California's certification system meets or exceeds NFPA standards.

When California requirements exceed the NFPA standard, the CTS guide cites the Office of the State Fire Marshal as the authority and prints the corresponding information in *italics*.

Given

This section lists the objects, equipment, materials, or facilities an individual needs in order to acquire the requisite knowledge and skills or to accomplish the job performance requirement(s) within a training standard.

Requisite Knowledge and Skills

This section lists the knowledge and skills that an individual must acquire in order to accomplish the job performance requirement(s) within a training standard.

This section does not include NFPA requisite knowledge or skills that are too general to teach or that individuals should develop through life experiences. For example, a training standard would not list “communicate orally and in writing” or “ability to relate interpersonally” unless they specifically apply to a job performance requirement about acquiring communication skills or developing interpersonal relationships.

Job Performance Requirements

This section includes one or more written statements that describe a specific job-related task and define measurable or observable outcomes. After an individual completes all coursework and requisite requirements, the capstone task book process verifies completion of job performance requirements.

Content

In addition to the individual certification training standards, the CTS guide also includes State Fire Training Revisions and Errata pages.

State Fire Training Content

Located at the back of the CTS guide, this table documents any significant revisions made by State Fire Training to the NFPA standards in the development of this CTS guide. This table is used to justify content additions and advise the course plan development team.

Errata

Located at the back of the CTS guide, this page documents any changes made to the CTS guide outside of the five-year NFPA revision cycle.

Fire Investigator

Section 1: Scene Examination

1-1: Securing the Fire Ground

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.2.1
2. Office of the State Fire Marshal

Given

1. *A fire scene*
2. Marking devices, tools, and equipment
3. Sufficient personnel

Requisite Knowledge and Skills

1. *Identify* fire ground hazards
2. *Identify* the types of evidence
3. *Discuss* marking devices and equipment used for securing the scene
4. *Describe* the importance of fire scene security, evidence preservation, and issues relating to spoliation
5. Use marking devices, *tools, and equipment*

Job Performance Requirements

1. Secure the fire ground to protect all evidence or potential evidence from damage or destruction and ensure unauthorized persons recognize the perimeters of the investigative scene and are kept from the restricted areas.

1-2: Conducting an Exterior Survey

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.2.2
2. Office of the State Fire Marshal

Given

1. *A fire scene*
2. *Camera*
3. *Graph paper and note pad*
4. Tools and equipment

Requisite Knowledge and Skills

1. *Describe the types of building construction*
2. *Recognize the effects of fire on construction materials*
3. *Recognize the types of evidence commonly found in the perimeter*
4. *Describe evidence preservation methods*
5. *Describe the effects of fire suppression*
6. *Describe fire behavior and spread*
7. *Recognize fire patterns*
8. *Recognize the dangers of hazardous materials*
9. *Assess fire ground and structural condition*
10. *Observe the damage from and effects of the fire*
11. *Interpret fire patterns*
12. *Identify weather conditions at the time of the fire*

Job Performance Requirements

1. Conduct an exterior survey to identify and preserve evidence, interpret fire damage, identify hazards to avoid injuries, determine accessibility to the property, and discover all potential means of ingress and egress.

1-3: Conducting an Interior Survey

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.2.3
2. Office of the State Fire Marshal

Given

1. *A fire scene*
2. *Camera*
3. *Graph paper and note pad*
4. Tools and equipment

Requisite Knowledge and Skills

1. *Describe the types of interior finishes*
2. *Recognize the effects of fire on interior finishes*
3. *Recognize the effects of fire suppression*
4. *Describe fire behavior and spread*
5. *Recognize the effects of building contents on fire growth*
6. *Describe the relationship of building contents to the overall investigation*
7. Assess structural conditions
8. Observe the damage and effects of the fire
9. *Determine the impact of fire suppression efforts on fire flow and heat propagation*
10. Evaluate protected areas to determine the presence and/or absence of contents

Job Performance Requirements

1. Conduct an interior survey to identify and preserve areas of potential evidentiary value requiring further examination, determine the evidentiary value of contents, and identify hazards to avoid injuries.

1-4: Interpreting Individual Fire Patterns

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.2.4
2. Office of the State Fire Marshal

Given

1. *A fire scene*
2. Tools and equipment

Requisite Knowledge and Skills

1. *Describe* fire dynamics
2. *Discuss* fire development
3. *Describe* the relationship of heat release rate, form, and ignitibility of materials
4. Interpret the effects of burning characteristics on different types of materials

Job Performance Requirements

1. Interpret individual fire patterns and the burning characteristics of the material involved in relationship with all patterns observed and the mechanisms of heat transfer that led to the formation of the pattern.

1-5: Analyzing Fire Patterns

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.2.5
2. Office of the State Fire Marshal

Given

1. *A fire scene*
2. Tools and equipment

Requisite Knowledge and Skills

1. *Recognize* fire behavior and spread based on fire chemistry, fire dynamics, and *fire* physics
2. *Identify* the effects fire suppression *has on fire patterns*
3. *Describe the effects* building construction *has on fire patterns*
4. *Analyze* variations of fire patterns on different materials with consideration given to heat release rate, form, and ignitability
5. Distinguish impact of different types of fuel loads
6. Evaluate *fire spread based on fuel load*
7. Analyze information

Job Performance Requirements

1. Analyze fire patterns to determine fire development, evaluate methods and effects of suppression, recognize false origin area patterns, and identify all areas of origin.

1-6: Examining and Removing Fire Debris

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.2.6
2. Office of the State Fire Marshal

Given

1. *A fire scene*
2. Tools and equipment
3. *Evidence collection materials*

Requisite Knowledge and Skills

1. *Recognize* ignition processes
2. *Describe the* characteristics of ignition sources
3. *Describe the ignitability of various* fuels
4. *Discuss the* use of tools and equipment during the debris search
5. *Describe* layering techniques *for debris removal*
6. *Identify the* types of fire-cause evidence found in *debris*
7. *Describe* evidence-gathering methods and documentation
8. Employ search techniques that further the discovery of fire cause evidence and ignition sources
9. Use search techniques that incorporate documentation
10. Collect and preserve evidence

Job Performance Requirements

1. Examine and remove fire debris to check for fire cause evidence, identify potential ignition source(s), and preserve evidence without investigator-inflicted damage or contamination.

1-7: Reconstructing the Area of Origin

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.2.7
2. Office of the State Fire Marshal

Given

1. *A fire scene*
2. Tools and equipment
3. Sufficient personnel

Requisite Knowledge and Skills

1. *Describe* the effects of fire on different types of material
2. *Describe the process of reconstruction*
3. *Describe* the importance and uses of reconstruction
4. Examine all materials to determine the effects of fire
5. Identify and distinguish among different types of fire-damaged contents
6. Return materials to their original position using protected areas and fire patterns

Job Performance Requirement

1. Reconstruct the area of origin to identify and correlate all protected areas and fire patterns related to contents or structural remains, return items potentially critical to cause determination and photo documentation to their prefire location, and discover the area(s) or point(s) of origin.

1-8: Inspecting the Performance of Building Systems

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.2.8
2. Office of the State Fire Marshal

Given

1. *Building systems*
2. Tools and equipment

Requisite Knowledge and Skills

1. *Recognize* different types of detection, suppression, HVAC, utility, and building compartmentation
2. *Identify the* types of expert resources for building systems
3. *Describe* the impact of fire on various systems
4. *Describe* common methods used to defeat a system's functional capability
5. *Explain the* types of *building system* failures
6. Determine the system's operation and its effect on the fire
7. Identify alterations to, and failure indicators of, building systems
8. Evaluate the impact of suppression efforts on building systems

Job Performance Requirements

1. Inspect the performance of building systems, including detection, suppression, HVAC, utilities, and building compartmentation to determine the need for expert resources, consider an operating system's impact on fire growth and spread in identifying origin areas, identify defeated and/or failed systems, and recognize the system's potential as a fire cause.

1-9: Discriminating the Effects of Explosions

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.2.9

Given

1. *A fire/explosion scene*
2. Tools and equipment

Requisite Knowledge and Skills

1. *Describe the* different types of explosions and their causes
2. *Describe the* characteristics of an explosion
3. *Explain* the difference between low- and high-order explosions
4. Identify explosive effects on glass, walls, foundations, and other building materials
5. Distinguish between low- and high-order explosion effects
6. Analyze damage to document the blast zone and origin

Job Performance Requirements

1. Discriminate the effects of explosions from other types of damage to identify an explosion and preserve its evidence.

Section 2: Scene Documentation

2-1: Diagramming the Scene

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.3.1
2. Office of the State Fire Marshal

Given

1. *A fire scene*
2. *Graph paper and note pad*
3. Tools and equipment

Requisite Knowledge and Skills

1. *Describe* symbols and legends used to clarify the diagram
2. *Describe the* types of evidence and patterns that need to be documented
3. *Discuss* formats for diagramming the scene
4. Sketch the scene
5. Perform basic drafting skills
6. Recognize evidence
7. *Use* observational skills

Job Performance Requirements

1. Diagram the scene and identify evidence, pertinent contents, significant patterns, and area(s) or point(s) of origin.

2-2: Photographing the Scene

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.3.2
2. Office of the State Fire Marshal

Given

1. *A fire scene*
2. Tools and equipment

Requisite Knowledge and Skills

1. *Discuss the types of cameras and flash*
2. *Discuss the types of film, media, and flash available*
3. *Describe the strengths and limitations of cameras, media, and flash*
4. *Describe the process of photographing the scene*
5. Use a camera, flash, and accessories

Job Performance Requirements

1. Photograph the scene to accurately document and support scene findings.

2-3: Constructing Investigative Notes

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.3.3
2. Office of the State Fire Marshal

Given

1. *A fire scene*
2. Available documents (e.g., prefire plans and inspection reports)
3. Interview information

Requisite Knowledge and Skills

1. *Describe* the relationship between notes, diagrams, and photos
2. *Describe translating scene information into* concise notes
3. *Discuss* using notes during report writing and legal proceedings
4. *Use* data-reduction skills
5. *Use* note-taking skills
6. *Use* observation and correlation skills

Job Performance Requirements

1. Construct investigative notes that provide accurate documentation of the scene and represent complete scene findings.

Section 3: Evidence Collection/Preservation

3-1: Processing Victims and Fatalities

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.4.1
2. Office of the State Fire Marshal

Given

1. *A fire scene with victim(s)*
2. *Relevant protocols for the AHJ*
3. *Tools and equipment*
4. *Appropriate personnel*

Requisite Knowledge and Skills

1. *Recognize the types of evidence associated with fire victims and fatalities*
2. *Discuss evidence preservation methods*
3. *Use observational skills*
4. *Apply protocols to given situations*

Job Performance Requirements

1. Process victims and fatalities to discover and preserve all evidence while utilizing proper procedures and following protocol.

3-2: Processing Evidence and Establishing Chain of Custody

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.4.2
2. Office of the State Fire Marshal

Given

1. *A fire scene*
2. *Authority requirements for establishing a chain of custody*
3. Evidence collection materials
4. Tools and equipment

Requisite Knowledge and Skills

1. *Describe the authority requirements for establishing a chain of custody*
2. *Describe the impact of removing evidentiary items on civil or criminal proceedings (exclusionary or fire-cause supportive evidence)*
3. *Explain the types, capabilities, and limitations of tools and equipment used to locate evidence*
4. *Identify the types of laboratory tests available*
5. *Discuss packaging techniques and materials*
6. *Explain the impact of evidence collection on the investigation*
7. Recognize different types of evidence
8. Determine whether evidence is critical to the investigation

Performance Requirements

1. Locate, document, collect, label, package, and store evidence to properly identify and preserve for use in testing, legal, or other proceedings and examinations, establish the chain of custody, and avoid cross-contamination and investigator-inflicted damage to evidentiary items.

3-3: Selecting Evidence for Analysis

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.4.3
2. Office of the State Fire Marshal

Given

1. *A fire scene*
2. Information *and evidence collected* from the investigation

Requisite Knowledge and Skills

1. *Explain the* purposes for submitting items for analysis
2. *Identify the* types of analytical services available
3. *Describe the* capabilities and limitations of the services performing the analysis
4. Evaluate the *fire scene* to determine forensic, engineering, or laboratory needs

Job Performance Requirements

1. Select evidence for analysis so the items support specific investigation needs.

3-4: Maintaining a Chain of Custody

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.4.4
2. Office of the State Fire Marshal

Given

1. Tools and equipment
2. *Evidence collection materials*

Requisite Knowledge and Skills

1. *Explain the* rules of custody and transfer procedures
2. *Describe* methods of recording the chain of custody
3. Execute the chain of custody procedures
4. Accurately complete necessary documents

Job Performance Requirements

1. Maintain a chain of custody with written documentation for each piece of evidence.

3-5: Disposing of Evidence

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.4.5
2. Office of the State Fire Marshal

Given

1. *Judicial or statutory requirements*
2. *Jurisdictional or agency requirements*
3. *Information and evidence collected from the investigation*

Requisite Knowledge and Skills

1. *Discuss judicial or statutory requirements for disposal*
2. *Identify disposal services available*
3. *Describe common disposal procedures and problems*
4. *Use documentation skills*

Job Performance Requirements

1. Dispose of evidence safely in compliance with jurisdictional or agency requirements.

Section 4: Interview

4-1: Developing an Interview Plan

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.5.1
2. Office of the State Fire Marshal

Given

1. *A fire scene*
2. Tools and equipment
3. *Existing file data if available*

Requisite Knowledge and Skills

1. *Identify* persons who can provide information that furthers the fire cause determination and responsibility
2. *Determine the* types of questions that are pertinent and efficient to ask of different information sources
3. *Discuss the* pros and cons of interview *techniques*
4. *Use* planning skills
5. *Develop* focused questions for specific individuals
6. *Evaluate* existing file data to help develop questions and fill investigative gaps

Job Performance Requirements

1. Develop an interview plan to assist in determining the fire origin/cause and responsibility that includes relevant questioning for each interviewee and promotes the efficient use of the investigator's time.

4-2: Conducting an Interview

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.5.2
2. Office of the State Fire Marshal

Given

1. Incident information
2. *Legal requirements*
3. *Tools and equipment*

Requisite Knowledge and Skills

1. *Identify the types of interviews*
2. *Describe the legal requirements for interviews*
3. *Describe the personal identifying information needed for proper documentation or follow-up*
4. *Explain documenting methods and tools*
5. *Describe verbal and nonverbal communications and their meanings*
6. *Describe interviewing strategies*
7. *Adjust interviewing strategies based on information gathered*
8. *Interpret verbal and nonverbal communications*
9. *Apply applicable legal requirements*
10. *Exhibit strong listening skills*

Job Performance Requirements

1. Conduct an interview that obtains pertinent information, asks follow-up questions, elicits responses to all questions, and documents the response to each question.

4-3: Evaluating Interview Information

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.5.3

Given

1. Interview transcripts or notes
2. Incident data

Requisite Knowledge and Skills

1. *Describe how to evaluate interview information*
2. *Identify data correlation methods*
3. Use data correlation skills
4. Evaluate source information

Job Performance Requirements

1. Evaluate interview information in order to analyze and correlate all interview data with all other interviews, document corroborative and conflictive information, and develop new leads.

Section 5: Post Incident Investigation

5-1: Gathering Reports and Records for a Legal Proceeding

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.6.1
2. Office of the State Fire Marshal

Given

1. *Reports and records from the investigation*

Requisite Knowledge and Skills

1. *Describe the types of reports and records needed that facilitate determining responsibility for the fire*
2. *Identify the location of these reports and records*
3. Identify the reports and records necessary for the investigation
4. Implement the chain of custody
5. Use organizational skills

Job Performance Requirements

1. Gather reports and records for a legal proceeding that are authentic, complete, and applicable to the investigation while maintaining the chain of custody to ensure the material is admissible.

5-2: Evaluating the Investigative File

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.6.2

Given

1. All available *case* file information

Requisite Knowledge and Skills

1. *Describe the* case file assessment and/or evaluation *process*
2. Use information assessment skills
3. Use correlation skills
4. Use organizational skills

Job Performance Requirements

1. Evaluate the investigative file to identify areas for further investigation, interpret the relationship between gathered documents and information, and discover corroborative evidence and information discrepancies.

5-3: Coordinating Expert Resources

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.6.3
2. Office of the State Fire Marshal

Given

1. *Case file*
2. *Evidence*

Requisite Knowledge and Skills

1. *Describe* how to assess one's own expertise
2. *Identify the* qualifications of an expert witness
3. *Identify the* types of expert resources
4. *Discuss the need for* expert resources
5. Network with other investigators to identify expert *resources*
6. Develop a utilization plan for *using* expert resources
7. Question experts relative to their qualifications
8. Apply expert resources to further the investigation

Job Performance Requirements

1. Coordinate expert resources to match expert's competencies to the specific investigation needs, justify financial expenditures, and further the investigative goals of determining cause and responsibility.

5-4: Establishing Evidence as to Means, Motive, and Opportunity

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.6.4
2. Office of the State Fire Marshal

Given

1. An incendiary fire scene
2. *Case file*
3. *Evidence*

Requisite Knowledge and Skills

1. *Identify means common to incendiary fires*
2. *Discuss motives common to incendiary fires*
3. *Identify methods used to discover opportunity*
4. *Discuss human behavioral patterns relative to fire-setting*
5. Analyze finances
6. Gather and analyze records
7. Interpret fire scene information and evidence for relationship to means, motive, and opportunity

Job Performance Requirements

1. Establish evidence as to means, motive, and opportunity that is supported by documentation and meets evidentiary requirements.

5-5: Formulating an Opinion

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.6.5

Given

1. Case file

Requisite Knowledge and Skills

1. *Describe* analytical methods and procedures
2. *Use* analytical skills

Job Performance Requirements

1. Formulate an opinion concerning origin, cause, and responsibility for the fire supported by data, facts, records, reports, documents, and evidence.

Section 6: Presentation

6-1: Preparing a Fire Investigation Report

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.7.1
2. Office of the State Fire Marshal

Given

1. Case file
2. *Tools and equipment*
3. A specific audience

Requisite Knowledge and Skills

1. *Discuss the* elements of writing
2. *Describe the* typical components of a *fire investigation* report
3. *Identify the* types of audiences and their respective needs or requirements
4. Use writing skills
5. Analyze information
6. Determine the *audience's* needs or requirements

Job Performance Requirements

1. Prepare a report that accurately reflects the investigative findings, is concise, expresses the investigator's opinion, and contains facts and data that the investigator relies on in rendering an opinion, contains the reasoning of the investigator to reach each opinion, and meets the needs or requirements of the intended audience.

6-2: Presenting Investigative Findings

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.7.2

Given

1. Case file
2. A specific audience

Requisite Knowledge and Skills

1. *Discuss the* types of investigative findings
2. *Identify* informational needs of various types of audiences
3. *Discuss* the impact of releasing information
4. Use communication skills
5. Determine audience needs
6. Correlate findings

Job Performance Requirements

1. Present investigative findings that are accurate and include only need-to-know information for the intended audience.

6-3: Testifying During Legal Proceedings

Authority

1. NFPA 1033 Standard for Fire Investigator Professional Qualifications (2014)
 - Paragraph 4.7.3

Given

1. Consultation with legal counsel
2. Case file

Requisite Knowledge and Skills

1. *Discuss the types of investigative findings within the case file*
2. *Discuss courtroom etiquette, professional demeanor, and attire*
3. *Discuss due process and legal proceedings*
4. Use communication and listening skills
5. Differentiate facts from opinion
6. Use *acceptable* procedures, practices, and etiquette during legal proceedings

Job Performance Requirements

1. Testify during legal proceedings to present all pertinent investigative information and evidence clearly and accurately while adhering to the appropriate demeanor and attire.

Section 7: Wildland Fire Origin and Cause Determination

7-1: Introduction to Wildland Fire Origin and Cause Determination

Authority

- Office of the State Fire Marshal

Given

1. *A wildland fire scene*
2. *Wildland fire evidence*
3. *Tools and equipment*

Requisite Knowledge and Skills

1. *Describe the common roles and responsibilities of a wildland fire investigator involved in an initial investigation environment*
2. *Discuss wildland fire investigation methods, evidence collection, and documentation processes in a realistic environment*
3. *Identify the laws, regulations, and related court procedures associated with administrative, civil, and criminal litigation processes associated with a wildland fire*
4. *Describe the fundamentals of a wildland fire investigation*
5. *Identify the elements of the professional code of ethics for fire investigators*

Job Performance Requirements

1. *Investigate a wildland fire ensuring wildland fire investigation methods are used, evidence is collected and documented, and the laws, regulations, and related court procedures associated with administrative, civil, and criminal litigation processes are followed.*

State Fire Training Content

Code Key

Blocks

- G = Given
- RKS = Requisite Knowledge and Skills
- JPR = Job Performance Requirements
- NCTS = New certification training standard

Sources

- NFPA 1033 = Standard for Fire Investigator Professional Qualifications (2014)
- NFPA 921 = Guide for Fire and Explosion Investigations (2014)
- OSFM = Office of the State Fire Marshal

Certification: Fire Investigator

CTS	Block	Addition	Justification	Source/Reference
1-1	G	<i>A fire scene</i>	Needed to complete the JPR	NFPA 1033
1-1	RKS	<i>Discuss marking devices and equipment used for securing the scene</i>	Needed to complete the JPR	NFPA 921
1-2	G	<i>A fire scene</i>	Needed to complete the JPR	NFPA 1033
1-3	G	<i>A fire scene</i>	Needed to complete the JPR	NFPA 1033
1-4	G	<i>A fire scene</i>	Needed to complete the JPR	NFPA 1033
1-5	G	<i>A fire scene</i>	Needed to complete the JPR	NFPA 1033
1-6	G	<i>A fire scene</i>	Needed to complete the JPR	NFPA 1033
1-7	G	<i>A fire scene</i>	Needed to complete the JPR	NFPA 1033
1-7	RKS	<i>Describe the process of reconstruction</i>	Needed to complete the JPR	NFPA 921
1-8	G	<i>Building systems</i>	Needed to complete the JPR	NFPA 1033
1-9	G	<i>A fire/explosion scene</i>	Needed to complete the JPR	NFPA 1033
2-1	G	<i>A fire scene</i>	Needed to complete the JPR	NFPA 1033
2-1	G	<i>Graph paper and note pad</i>	Needed to complete the JPR	NFPA 1033
2-2	G	<i>A fire scene</i>	Needed to complete the JPR	NFPA 1033
2-2	RKS	<i>Describe the process of photographing the scene</i>	Needed to complete the JPR	NFPA 921
2-3	G	<i>A fire scene</i>	Needed to complete the JPR	NFPA 1033
3-1	G	<i>A fire scene with victim(s)</i>	Needed to complete the JPR	NFPA 1033
3-1	G	<i>Tools and equipment</i>	Needed to complete the JPR	NFPA 1033
3-2	G	<i>A fire scene</i>	Needed to complete the JPR	NFPA 1033
3-2	G	<i>Authority requirements for establishing a chain of custody</i>	Needed to complete the JPR	NFPA 1033

Errata

CTS	Block	Addition	Justification	Source/Reference
3-3	G	<i>A fire scene</i>	Needed to complete the JPR	NFPA 1033
3-5	G	<i>Judicial or statutory requirements</i>	Needed to complete the JPR	NFPA 1033
3-5	RKS	<i>Discuss judicial or statutory requirements for disposal</i>	Needed to complete the JPR	NFPA 921
4-1	G	<i>A fire scene</i>	Needed to complete the JPR	NFPA 1033
4-2	G	<i>Legal requirements</i>	Needed to complete the JPR	NFPA 1033
4-2	G	<i>Tools and equipment</i>	Needed to complete the JPR	NFPA 1033
4-2	RKS	<i>Describe the legal requirements for interviews</i>	Needed to complete the JPR	NFPA 921
4-2	RKS	<i>Describe interviewing strategies</i>	Needed to complete the JPR	NFPA 921
5-1	G	<i>Reports and records from the investigation</i>	Needed to complete the JPR	NFPA 1033
5-3	G	<i>Case file</i>	Needed to complete the JPR	NFPA 1033
5-3	G	<i>Evidence</i>	Needed to complete the JPR	NFPA 1033
5-4	G	<i>Case file</i>	Needed to complete the JPR	NFPA 1033
5-4	G	<i>Evidence</i>	Needed to complete the JPR	NFPA 1033
5-4	RKS	<i>Identify means common to incendiary fires</i>	Needed to complete the JPR	NFPA 921
6-1	G	<i>Tools and equipment</i>	Needed to complete the JPR	NFPA 1033
7-1	NCTS	<i>Introduction to Wildland Fire Origin and Cause Determination</i>	The landscape environment in California requires this training	OSFM



Basic Fire Investigation

Course Plan

Course Details

Certification:	Fire Investigator
CTS Guide:	Fire Investigator (Month 2016)
Description:	This course provides information on securing the fire scene and determining the origin and cause of the fire. Topics include responsibilities of a fire investigator, securing the fire ground, conducting an exterior and interior survey, analyzing fire patterns, interpreting individual fire patterns, discriminating the effects of explosions, examining and removing fire debris, reconstructing the area of origin, inspecting the performance of building systems. The 2014 edition of <i>NFPA 1033 Standard Professional Qualifications for Fire Investigator</i> is the basis for this course.
Designed For:	Fire investigators and law enforcement officers responsible for conducting fire investigations
Prerequisite:	Fire Behavior and Combustion (California Community College core curriculum)
Corequisite:	Basic Electricity (CFITrainer.net) Ethics and the Fire Investigator (CFITrainer.net)
Standard:	Complete all activities Complete the summative test with a minimum score of 80%
Hours:	Lecture: 27:30 Activity: 10:00 Testing: 2:00
Hours (Total):	39:30
Maximum Class Size:	40

Fire Investigation 1A

Instructor Level: This course requires one (1) primary instructor and sufficient assistant instructors to meet the activity ratio

Instructor/Student Ratio: Lecture: 1:40 Activity: 1:10

Restrictions: Air Quality Management District permit (if required)
Burn cubicles sufficient to accommodate the 1:10 instructor/student ratio
Staffed fire suppression equipment

SFT Designation: CFSTES

Required Resources

Instructor Resources

To teach this course, instructors need:

- *Fire Investigator Principles and Practice*, 4th Edition (2016), Jones and Bartlett
or
Fire Investigator, 2nd Edition, IFSTA
- *NFPA 921: Guide for Fire & Explosion Investigations*, Current Edition
- Fire scene scenarios
- Marking devices
- Tools and equipment used by a fire investigator
- Evidence collection materials
- Device capable of taking photographs (i.e., camera, tablet, cell phone)
- Graph paper and note pad
- Personal protective equipment

Online Instructor Resources

The following instructor resources are available online at
<http://osfm.fire.ca.gov/training/instructorscorner.php>:

- Fire Investigation 1A required activities

Student Resources

To participate in this course, students need:

- *Fire Investigator Principles and Practice*, 4th Edition (2016), Jones and Bartlett
or
Fire Investigator, 2nd Edition, IFSTA
- *NFPA 921: Guide for Fire & Explosion Investigations*, Current Edition
- Basic Electricity (CFITrainer.net)
- Ethics and the Fire Investigator (CFITrainer.net)
- Device capable of taking photographs (i.e., camera, tablet, cell phone)
- Electronic device for developing and delivering a presentation

- Personal protective equipment

Facilities, Equipment, and Personnel

The following facilities, equipment, or personnel are required to deliver this course:

- Standard learning environment or facility
- Writing board or paper conference pads
- Markers, erasers
- Computer or tablet with presentation or other viewing software
- Amplification devices
- Projector and screen
- Marking devices, tools, and equipment used by a fire investigator
- Air Quality Management District permit (if required)
- Burn cubicles sufficient to accommodate the 1:10 instructor/student ratio
- Staffed fire suppression equipment
- Qualified assistant instructors

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Unit 1: Introduction

Topic 1-1: Orientation and Administration

Terminal Learning Objective

At the end of this topic, a student will be able to identify facility and classroom requirements and identify course objectives, events, requirements, assignments, activities, resources, evaluation methods, and participation requirements in the course syllabus.

Enabling Learning Objectives

1. Identify facility requirements
 - Restroom locations
 - Food locations
 - Smoking locations
 - Emergency procedures
2. Identify classroom requirements
 - Start and end times
 - Breaks
 - Electronic device policies
 - Special needs and accommodations
 - Other requirements as applicable
3. Review course syllabus
 - Course objectives
 - Calendar of events
 - Course requirements
 - Student evaluation process
 - Assignments
 - Basic Electricity (CFITrainer.net) must be completed on-line as homework before the end of this class
 - 4 hours
 - Course completion certificate or transcript required
 - Ethics and the Fire Investigator (CFITrainer.net) must be completed on-line as homework before the end of this class
 - 3 hours
 - Course completion certificate or transcript required
 - Activities
 - Required student resources
 - Class participation requirements

Discussion Questions

1. What are the course requirements?
2. How will you be evaluated?

Activities

1. To be determined by the instructor.

Topic 1-2: Fire Investigator Certification Process

Terminal Learning Objective

At the end of this topic, a student will be able to identify the courses and requirements for Fire Investigator certification, and be able to describe the certification task book and testing process.

Enabling Learning Objectives

1. Identify the courses required for Fire Investigator certification
 - Fire Investigation 1A: Basic Fire Investigation
 - Fire Investigation 1B: Evidence and Documentation
 - Fire Investigation 1C: Preparation for Legal Proceedings
 - POST certified Interview and Interrogation #31445 (40 hours)
 - NWCG FI-210 Wildland Fire Origin and Cause Determination (38 hours)
2. Identify any other requirements for Fire Investigator certification
 - Experience [one (1) of the following two (2) options]
 - Have a minimum of two (2) year full-time, paid experience in a California fire department with the primary responsibility as a fire investigator
 - Or
 - Have a minimum of four (4) years volunteer or part-time, paid experience in a California fire department with the primary responsibility as a fire investigator
 - Investigate 20 fires, 10 must be structure fires, as the primary investigator and develop complete fire investigation reports
 - Be appointed to the rank or position of Fire Investigator
 - Performing in an acting capacity does not qualify
3. Describe the certification task book process
 - Complete all prerequisites and course work
 - Submit application and fees to request certification task book
 - Complete all job performance requirements included in the task book
 - Must have identified evaluator verify individual task completion via signature
 - Must have Fire Chief or authorized representative verify task book completion via signature
 - Must be employed by a California fire agency in the position prior to submitting completed task book to State Fire Training
4. Describe the certification testing process
 - Complete course work
 - Schedule online certification test
 - Schedule skills evaluation test

Discussion Questions

1. How many courses are there in the Fire Investigator certification track? What are they?
2. What is the minimum experience required for a full-time, paid fire investigator?

Activities

1. To be determined by the instructor.

Topic 1-3: Responsibilities of a Fire Investigator

Terminal Learning Objective

At the end of this topic, a student will be able to employ the all aspects of the scientific method as the operating analytical process throughout the investigation.

Enabling Learning Objectives

1. Describe the scientific method in relation to origin and cause
 - Recognize the need
 - Define the problem
 - Collect the data
 - Analyze the data
 - Develop hypothesis
 - Inductive reasoning
 - Test hypothesis
 - Deductive reasoning
 - Select your final hypothesis
2. Discuss the interrelationship of the investigation within the organizational incident management system

Discussion Questions

1. What are the consequences for not using the scientific method?
2. In what different ways can you test your hypothesis?
3. What impact does your fire investigation have on the incident management system?

Activities

1. To be determined by the instructor.

Unit 2: Securing the Scene and Conducting a Scene Survey

Topic 2-1: Securing the Fire Ground

Terminal Learning Objective

At the end of this topic, a student, given a fire scene, marking devices, tools, equipment, and sufficient personnel will be able to secure the fire ground to protect all evidence or potential evidence from damage or destruction and ensure unauthorized persons recognize the perimeters of the investigative scene and are kept from the restricted areas.

Enabling Learning Objectives

1. Identify fire ground hazards, including explosives and secondary devices
 - Exterior
 - Interior
2. Identify the types of evidence
3. Discuss marking devices and equipment used for securing the scene
 - Establishing perimeters
4. Describe the importance of fire scene security, evidence preservation, and issues relating to spoliation
5. Use marking devices, tools, and equipment

Discussion Questions

1. What is the most unusual hazard you've come across at a fire scene?
2. How do you determine your perimeter at a fire or explosion?
3. What steps do you take when you find an unauthorized person within your perimeter?
4. What are some common ways to secure a fire scene?
5. Who destroys the most evidence on a fire?

Activities

1. To be determined by the instructor.

CTS Guide Reference: CTS 1-1

Topic 2-2: Conducting an Exterior Survey

Terminal Learning Objective

At the end of this topic, a student, given a fire scene, tools, and equipment, will be able to conduct an exterior survey to identify and preserve evidence, interpret fire damage, identify hazards to avoid injuries, determine accessibility to the property, and discover all potential means of ingress and egress.

Enabling Learning Objectives

1. Describe the types of building construction
2. Recognize the effects of fire on construction materials
3. Identify potential exterior ignition sources
4. Recognize the types of evidence commonly found in the perimeter
5. Discuss potential surveillance sources
 - ATMs
 - Surveillance cameras
 - Bystander videos
 - Dash cameras
 - Social media
 - Cell towers
6. Describe evidence preservation methods
7. Describe the effects of fire suppression
8. Describe fire behavior and spread
9. Recognize fire patterns
10. Recognize the dangers of hazardous materials
11. Identify weather conditions at the time of the fire
12. Assess fire ground and structural condition
13. Observe the damage from and effects of the fire
14. Interpret fire patterns

Discussion Questions

1. How do additions to a structure affect fire spread?
2. What should you look for during an exterior survey?
3. How could weather affect your exterior burn patterns?
4. How would you recover surveillance evidence?

Activities

1. Divide students into small groups. Have each group conduct an exterior survey of a building that includes photographs of possible ignition sources. Have each group select a spokesperson to present their group's findings.
2. Required Final Activity: Conducting an Origin and Cause Fire Investigation

Instructor Note

1. In this section, cover exterior scene examinations of different building types including single-family home, multi-family dwellings, strip centers, commercial structures, and high-rise.

CTS Guide Reference: CTS 1-2

Topic 2-3: Conducting an Interior Survey

Terminal Learning Objective

At the end of this topic, a student, given a fire scene, tools, and equipment, will be able to conduct an interior survey to identify and preserve areas of potential evidentiary value requiring further examination, determine the evidentiary value of contents, and identify hazards to avoid injuries.

Enabling Learning Objectives

1. Describe the types of interior finishes
2. Recognize the effects of fire on interior finishes
3. Identify potential interior ignition sources
4. Recognize the effects of fire suppression
5. Describe fire behavior and spread
6. Recognize the effects of building contents on fire growth
7. Describe the relationship of building contents to the overall investigation
8. Assess structural conditions
9. Observe the damage and effects of the fire
10. Determine the impact of fire suppression efforts on fire flow and heat propagation
11. Evaluate protected areas to determine the presence and/or absence of contents

Discussion Questions

1. In what ways does fire suppression affect an interior scene?
2. Why is it important to be familiar with the types of furnishings inside the structure?
3. What is the significance of the lack of building contents?
4. Why is the position of the contents prior to the fire important to know?
5. Why is it important to understand the condition of windows and doors at the time of the fire?
6. Whom would you talk to about suppression operations?
7. What are some questions you should ask suppression personnel?

Activities

1. Display a variety of pictures and ask students to:
 - Identify the types of interior finishes and describe the effects of fire
 - Identify potential interior ignition sources
 - Describe fire behavior and spread

- Discuss the effects of building contents on fire growth
- Describe the relationship of building contents to the overall investigation
- Evaluate protected areas to determine the presence and/or absence of contents

2. Required Final Activity: Conducting an Origin and Cause Fire Investigation

CTS Guide Reference: CTS 1-3

Unit 3: Origin and Cause

Topic 3-1: Analyzing Fire Patterns

Terminal Learning Objective

At the end of this topic, a student, given a fire scene, tools, and equipment, will be able to analyze fire patterns to determine fire development, evaluate methods and effects of suppression, recognize false origin area patterns, and identify all areas of origin.

Enabling Learning Objectives

1. Recognize fire behavior and spread based on fire chemistry, fire dynamics, and fire physics
2. Identify the effects fire suppression has on fire patterns
 - Fire streams
 - Ventilation
3. Describe the effects building construction has on fire patterns
 - Design
 - Construction, including construction materials
 - Structural elements
 - Ventilation openings
4. Analyze variations of fire patterns on different materials with consideration given to heat release rate, form, and ignitibility
5. Distinguish the impact of different types of fuel loads
 - Fuel packages
 - Property of flames
6. Evaluate fire spread based on fuel load
7. Analyze information

Discussion Questions

1. How can fire suppression affect fire patterns?
2. By what means do newer furnishings affect fire spread?
3. In what way can interior burn patterns differ from exterior burn patterns?
4. How do windows and doors affect fire spread?
5. Why should you consider all fire patterns?
6. What is the difference between fire effect and fire pattern?

Activities

1. Required Final Activity: Conducting an Origin and Cause Fire Investigation

Instructor Note

1. ELO #1 should include a basic review of the prerequisite course, Fire Behavior and Combustion.

CTS Guide Reference: CTS 1-5

Topic 3-2: Interpreting Individual Fire Patterns

Terminal Learning Objective

At the end of this topic, a student, given a fire scene, tools, and equipment, will be able to interpret individual fire patterns and the burning characteristics of the material involved in relationship with all patterns observed and the mechanisms of heat transfer that led to the formation of the pattern.

Enabling Learning Objectives

1. Describe fire dynamics
2. Discuss fire development
3. Describe the relationship of heat release rate, form, and ignitability of materials
4. Interpret the effects of burning characteristics on different types of materials

Discussion Questions

1. What are some common misconceptions when interpreting fire effects? (i.e., glass breaking, spalling, annealed springs, pour patterns, floors burned through)
2. What are the two most common methods of heat transfer?
3. How does the post flashover environment affect fire patterns?
4. In what ways does the orientation of a fuel package affect fire dynamics and ignitability of the material?

Activities

1. Required Activity 3-2-1: Interpreting Fire Dynamics

CTS Guide Reference: CTS 1-4

Topic 3-3: Discriminating the Effects of Explosions

Terminal Learning Objective

At the end of this topic, a student, given tools and equipment, will be able to discriminate the effects of explosions from other types of damage to identify an explosion and preserve its evidence.

Enabling Learning Objectives

1. Describe the different types of explosions and their causes
2. Describe the characteristics of an explosion
3. Explain the difference between low- and high-order explosions
4. Identify explosive effects on glass, walls, foundations, and other building materials
5. Distinguish between low- and high-order explosion effects
6. Analyze damage to document the blast zone and origin

Discussion Questions

1. What is the difference between a positive and negative pressure blast?
2. At a fire scene, what can cause an explosion?

3. How far out would your perimeter be at an explosion scene?
4. How might an explosion scene differ from a fire scene?

Activities

1. To be determined by the instructor.

Instructor Note

1. For assistance with this topic, reference Explosion Dynamics (CFITrainer.net)

CTS Guide Reference: CTS 1-9

Topic 3-4: Examining and Removing Fire Debris

Terminal Learning Objective

At the end of this topic, a student, given a fire scene, tools, and equipment, will be able to examine and remove fire debris to check for fire cause evidence, identify potential ignition source(s), and preserve evidence without investigator-inflicted damage or contamination.

Enabling Learning Objectives

1. Recognize ignition processes
2. Describe the characteristics of ignition sources
3. Describe the ignitability of various fuels
4. Discuss the use of tools and equipment during the debris search
 - Common
 - Specialized
5. Describe layering techniques for debris removal
 - Gridding
6. Identify the types of fire-cause evidence found in debris
7. Describe evidence-gathering methods and documentation
8. Employ search techniques that further the discovery of fire cause evidence and ignition sources
9. Use search techniques that incorporate documentation
10. Collect and preserve evidence

Discussion Questions

1. What types of ignition sources should you look for when removing fire debris?
2. What are the characteristics of an ignition source?
3. Where is the best place for fire debris during overhaul?
4. What is the purpose for removing debris in layers?
5. At what point should you terminate overhaul?

Activities

1. Required Final Activity: Conducting an Origin and Cause Fire Investigation

CTS Guide Reference: CTS 1-6

Topic 3-5: Reconstructing the Area of Origin

Terminal Learning Objective

At the end of this topic, a student, given a fire scene, tools, equipment, and sufficient personnel, will be able to reconstruct the area of origin to identify and correlate all protected areas and fire patterns related to contents or structural remains, return items potentially critical to cause determination and photo documentation to their prefire location, and discover the area(s) or point(s) of origin.

Enabling Learning Objectives

1. Describe the effects of fire on different types of material
2. Describe the process of reconstruction
3. Describe the importance and uses of reconstruction
4. Examine all materials to determine the effects of fire
5. Identify and distinguish among different types of fire-damaged contents
6. Return materials to their original position using protected areas and fire patterns

Discussion Questions

1. What are the different techniques for reconstructing a fire scene?
2. How might you determine the location of the contents?
3. In the area of origin, what might you find?
4. How would you document the area of origin?

Activities

1. Required Final Activity: Conducting an Origin and Cause Fire Investigation

CTS Guide Reference: CTS 1-7

Topic 3-6: Inspecting the Performance of Building Systems

Terminal Learning Objective

At the end of this topic, a student, given building systems, tools, and equipment, will be able to inspect the performance of building systems, including detection, suppression, HVAC, utilities, and building compartmentation to determine the need for expert resources, consider an operating system's impact on fire growth and spread in identifying origin areas, identify defeated and/or failed systems, and recognize the system's potential as a fire cause.

Enabling Learning Objectives

1. Recognize different types of detection, suppression, HVAC, utility, and building compartmentation
 - Reporting features
2. Identify the types of expert resources for building systems
3. Describe the impact of fire on various systems
4. Describe common methods used to defeat a system's functional capability
5. Explain the types of building system failures
6. Determine the system's operation and its effect on the fire
7. Identify alterations to, and failure indicators of, building systems
8. Evaluate the impact of suppression efforts on building systems

Discussion Questions

1. What are some fire control devices?
2. How can you tell if a building system was functioning properly at the time of the event?
3. Was the design of the existing building system proper for the current fire load? If not, why?
4. How could the fire suppression system affect the fire?
5. In what ways could the HVAC affect the fire patterns?

Activities

1. To be determined by the instructor.

CTS Guide Reference: CTS 1-8

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Fire Investigation 1A

Time Table

Segment	Lecture Time	Activity/Skills Time	Total Unit Time
Unit 1: Introduction			
Topic 1-1: Orientation and Administration			
Lecture	0:30		
To be determined by the instructor			
Topic 1-2: Fire Investigator Certification Process			
Lecture	0:30		
To be determined by the instructor			
Topic 1-3: Responsibilities of a Fire Investigator			
Lecture	2:00		
To be determined by the instructor			
Unit 1 Totals	3:00		3:00
Unit 2: Securing the Scene and Conducting a Scene Survey			
Topic 2-1: Securing the Fire Ground			
Lecture	0:30		
To be determined by the instructor			
Topic 2-2: Conducting an Exterior Survey			
Lecture	4:00		
Recommended by State Fire Training		*	
Topic 2-3: Conducting an Interior Survey			
Lecture	4:00		
Recommended by State Fire Training		*	
Unit 2 Totals	8:30	2:00	10:30
Unit 3: Area of Origin			
Topic 3-1: Analyzing Fire Patterns			
Lecture	5:00		
To be determined by the instructor			
Topic 3-2: Interpreting Individual Fire Patterns			
Lecture	3:00		
Activity 3-2-1: Interpreting Fire Dynamics		*	
Topic 3-3: Discriminating the Effects of Explosions			
Lecture	2:00		
To be determined by the instructor			
Topic 3-4: Examining and Removing Fire Debris			
Lecture	2:00		
To be determined by the instructor			

Fire Investigation 1A

Segment	Lecture Time	Activity/Skills Time	Total Unit Time
Topic 3-5: Reconstructing the Area of Origin			
Lecture	2:00		
To be determined by the instructor			
Topic 3-6: Inspecting the Performance of Building Systems			
Lecture	2:00		
To be determined by the instructor			
Required Final Activity: Conducting an Origin and Cause Fire Investigation		*	
Unit 3 Totals	16:00	8:00	24:00
Lecture, Activity, and Unit Totals:	27:30	10:00	37:30

Course Totals

Total Lecture Time (LT)	27:30
Total Activity Time (AT)	*10:00
Total Testing Time (TT)	2:00
Total Course Time	39:30

*Note: Activity time will vary depending on the number of students in the program. It is important to remember that the suggested skill hours are for 40 students.

Fire Investigation 1A

Activity 3-2-1: Interpreting Fire Dynamics

Interpreting Fire Dynamics

Activity 3-2-1

Format: Group or All Students

Time Frame: Open (based on a total of 10:00 available hours)

Description

This activity provides students with an opportunity to observe and interpret fire dynamics.

Materials

- Air Quality Management District permit (if required)
- Incident action plan (IAP)
- Burn cubicle
 - Wood or steel frame (minimum 8'x8') with 8' ceiling (5 or 6 wall)
 - Window(s) and door (optional)
 - Drywall interior with optional interior finishes
 - Floor covering
 - Furniture and/or other combustibles
 - Smoke detector (optional)
- Staffed fire suppression equipment
- Personal protective equipment

Instructions

1. Observe and interpret the fire's development and dynamics
2. Compare and contrast fuel packages
3. Be prepared to discuss your observations

Instructor Notes

1. Recommend compliance with *NFPA 1403: Standard on Live Fire Training Evolutions*, Current Edition in your IAP.

Fire Investigation 1A

Activity 3-2-1: Interpreting Fire Dynamics

Activity Content

After completion of the burn, answer the following questions and be prepared to discuss your observations.

1. What were the observable fire effects?

2. What were the observable fire patterns?

3. Describe the fire's movement and intensity.

4. How did ventilation contribute to the fire's movement?

5. How did fuel items and/or fuel packages influence the fire effects and patterns?

6. How did air entrainment process affect plume development?

7. Did this fire flashover or rollover? Explain your reasoning

Fire Investigation 1A

Final Activity: Conducting an Origin and Cause Fire Investigation

Conducting an Origin and Cause Fire Investigation

Final Activity

Format: Group

Time Frame: Open (based on a total of 10:00 available hours)

Description

This activity provides students with an opportunity to conduct an origin and cause fire investigation.

Materials

- Burned cubicle (1 per 10 students) and or burned structure
- Tools and equipment
- Personal protective equipment
- Evidence collection equipment
- Device capable of taking photographs (i.e., tablet or cell phone)
- Graph paper and note pad
- Electronic device for developing and delivering a presentation

Instructions

1. Select a group leader
2. Conduct an exterior and interior survey
3. Examine and remove debris
4. Reconstruct the area of origin
5. Presents your findings after all activities are complete.

Instructor Notes

1. One burned cubicle for every 10 students
2. Allow 1 hour for the groups to prepare their presentation
3. Allow a minimum of 30 minutes for each group's presentation

Fire Investigation 1A

Final Activity: Conducting an Origin and Cause Fire Investigation

Activity Content

1. Select a group leader
2. Conduct an exterior scene survey
 - Recognize, analyze, and interpret fire patterns
 - Sketch and photograph the scene
 - Identify, protect, photograph, and secure possible evidence
3. Conduct an interior scene survey
 - Identify the area of origin and potential ignition source(s)
 - Recognize, analyze, and interpret fire patterns
 - Sketch and photograph the scene
 - Identify, protect, photograph, and secure possible evidence
4. Examine and remove debris
 - Evaluate the area to begin processing/excavating
 - Use the layering technique/sifting of debris
 - Identify, protect, photograph, and secure possible evidence
5. Reconstruct the area of origin
 - Examine the effects of fire on the materials
 - Return materials to their original position using protected areas and fire patterns
 - Determine why and where the contents were assessed and/or evaluated
 - Photograph the scene after reconstruction
6. Team leader will present the group's findings.



Evidence and Documentation

Course Plan

Course Details

- Certification:** Fire Investigator
- CTS Guide:** Fire Investigator (Month 2016)
- Description:** This course provides information on scene documentation and evidence collection/preservation. Topics include photographing the scene, diagramming the scene, constructing investigative notes, processing evidence and establishing chain of custody, processing victims and fatalities, selecting evidence for analysis, maintaining a chain of custody, preparing a fire investigation report, and disposing of evidence. The 2014 edition of NFPA 1033 Standard for Fire Investigator Professional Qualifications is the basis for this course.
- Designed For:** Fire investigators and law enforcement officers responsible for conducting fire investigations
- Prerequisites:** Fire Investigation 1A: Basic Fire Investigation
- Corequisite:** Introduction to Evidence (CFITrainer.net)
- Standard:** Complete all activities
Complete the summative test with a minimum score of 80%
- Hours:** Lecture: 21:30
Activities: 10:00
Testing: 2:00
- Hours (Total):** 33:30
- Maximum Class Size:** 40
- Instructor Level:** This courses requires one (1) primary instructor
- Restrictions:** None
- SFT Designation:** CFSTES

Required Resources

Instructor Resources

To teach this course, instructors need:

- *Fire Investigator Principles and Practice*, 4th Edition (2016), Jones and Bartlett
Or
- *Fire Investigator*, 2nd Edition, IFSTA
- *NFPA 921: Guide for Fire & Explosion Investigations*, Current Edition
- Fire scene scenarios
- Tools and equipment used by a fire investigator
- Evidence samples, collection materials, and logs
- Available documents for fire scene scenarios (e.g., prefire plans and inspection reports)
- Sample documents for constructing investigative notes
- Authority requirements for establishing a chain of custody
- Relevant protocols for processing victims and fatalities
- Judicial, statutory, or jurisdictional requirements for disposing evidence
- Sample case file
- Personal protective equipment

Online Instructor Resources

The following instructor resources are available online at

<http://osfm.fire.ca.gov/training/instructorscorner.php>:

- Fire Investigator 1B required activities

<http://www.oag.ca.gov/cci/reference#peb>

- Physical Evidence Bulletins (Office of the Attorney General)

<http://lib.post.ca.gov/Publications/Evidence-Property%20Management%20Guide.pdf>

- Evidence and Property Management Guide (POST)

http://ngl.cengage.com/assets/downloads/greatwi_pro0000000335/gw3_unit2.pdf

- Five Elements of Writing

Student Resources

To participate in this course, students need:

- *Fire Investigator Principles and Practice*, 4th Edition (2016), Jones and Bartlett
or
Fire Investigator, 2nd Edition, IFSTA
- *NFPA 921: Guide for Fire & Explosion Investigations*, Current Edition
- Device capable of taking photographs (i.e., tablet or cell phone)
- Tablet or laptop computer
- Personal protective equipment

Facilities, Equipment, and Personnel

The following facilities, equipment, or personnel are required to deliver this course:

- Standard learning environment or facility
- Writing board or paper conference pads
- Markers, erasers
- Computer or tablet with presentation or other viewing software
- Amplification devices
- Projector and screen
- Tools and equipment used by a fire investigator

DRAFT

Unit 1: Introduction

Topic 1-1: Orientation and Administration

Terminal Learning Objective

At the end of this topic, a student will be able to identify facility and classroom requirements and identify course objectives, events, requirements, assignments, activities, resources, evaluation methods, and participation requirements in the course syllabus.

Enabling Learning Objectives

1. Identify facility requirements
 - Restroom locations
 - Food locations
 - Smoking locations
 - Emergency procedures
2. Identify classroom requirements
 - Start and end times
 - Breaks
 - Electronic device policies
 - Special needs and accommodations
 - Other requirements as applicable
3. Review course syllabus
 - Course objectives
 - Calendar of events
 - Course requirements
 - Student evaluation process
 - Assignments
 - Introduction to Evidence (CFITrainer.net) must be completed on-line as homework before the end of this class
 - 4 hours
 - Course completion certificate or transcript required
 - Activities
 - Required student resources
 - Class participation requirements

Discussion Questions

1. What are the course requirements?
2. How will you be evaluated?

Activities

1. To be determined by the instructor.

Topic 1-2: Fire Investigator Certification Process

Terminal Learning Objective

At the end of this topic, a student will be able to identify the courses and requirements for Fire Investigator certification, and be able to describe the certification task book and testing process.

Enabling Learning Objectives

1. Identify the courses required for Fire Investigator certification
 - Fire Investigation 1A: Basic Fire Investigation
 - Fire Investigation 1B: Evidence and Documentation
 - Fire Investigation 1C: Preparation for Legal Proceedings
 - POST certified Interview and Interrogation #31445 (40 hours)
 - NWCG FI-210 Wildland Fire Origin and Cause Determination (38 hours)
2. Identify any other requirements for Fire Investigator certification
 - Experience [one (1) of the following two (2) options]
 - Have a minimum of two (2) year full-time, paid experience in a California fire department with the primary responsibility as a fire investigator
 - Or
 - Have a minimum of four (4) years volunteer or part-time, paid experience in a California fire department with the primary responsibility as a fire investigator
 - Investigate 20 fires, 10 must be structure fires, as the primary investigator and develop a complete fire investigation report
 - Be appointed to the rank or position of Fire Investigator
 - Performing in an acting capacity does not qualify
3. Describe the certification task book process
 - Complete all prerequisites and course work
 - Submit application and fees to request certification task book
 - Complete all job performance requirements included in the task book
 - Must have identified evaluator verify individual task completion via signature
 - Must have Fire Chief or authorized representative verify task book completion via signature
 - Must be employed by a California Fire Agency in the position prior to submitting completed task book to State Fire Training
4. Describe the certification testing process
 - Complete course work
 - Schedule online certification test
 - Schedule skills evaluation test

Discussion Questions

1. How many courses are there in the Fire Investigator certification track? What are they?
2. What is the minimum experience required for a full-time, paid fire investigator?

Activities

1. To be determined by the instructor.

Unit 2: Scene Documentation

Topic 2-1: Photographing the Scene

Terminal Learning Objective

At the end of this topic, a student, given a fire scene, tools, and equipment, will be able to photograph the scene to accurately document and support scene findings.

Enabling Learning Objectives

1. Discuss the types of cameras (including video) and flash
2. Discuss the types of film, media, and flash available
3. Describe the strengths and limitations of cameras (including video), media, and flash
4. Describe the process of photographing the scene
5. Describe a photo log and its purpose
6. Use camera, flash, and accessories

Discussion Questions

1. What photographic issues would you encounter on a fire scene?
2. How would you approach the photographic documentation of a fire scene?
3. Why would you not use a personal camera or cell phone to photograph a fire scene?
4. What would you do with poor quality photographs?
5. What is important to photograph at a fire scene?

Activities

1. Activity 2-3-1: Scene Documentation

CTS Guide Reference: CTS 2-2

Topic 2-2: Diagramming the Scene

Terminal Learning Objective

At the end of this topic, a student, given a fire scene, tools, and equipment, will be able to diagram the scene and identify evidence, pertinent contents, significant patterns, and area(s) or point(s) of origin.

Enabling Learning Objectives

1. Describe symbols and legends used to clarify the diagram
2. Describe the types of evidence and patterns that need to be documented
3. Discuss formats for diagramming the scene
4. Sketch the scene
5. Perform basic drafting skills
6. Recognize evidence
7. Use observational skills

Discussion Questions

1. What is the difference between a sketch and a diagram?
2. What symbols and legends are required on a diagram?
3. What content should be included?
4. What is the importance of a diagram to a case?

Activities

1. See Activity 2-3-1: Scene Documentation

CTS Guide Reference: CTS 2-1

Topic 2-3: Constructing Investigative Notes

Terminal Learning Objective

At the end of this topic, a student, given a fire scene, available documents (e.g., prefire plans and inspection reports), and interview information, will be able to construct investigative notes that provide accurate documentation of the scene and represent complete scene findings.

Enabling Learning Objectives

1. Describe the relationship between notes, sketches or diagrams, and photos
2. Describe translating scene information into concise notes
3. Discuss using notes during report writing and legal proceedings
4. Use data-reduction skills
5. Take notes
6. Use observation and correlation skills

Discussion Questions

1. What are some important scene observations to include in your notes?
2. How detailed should your notes be in order to construct your report?
3. What are the pros and cons of retaining your notes after writing the report?
4. Can you legally destroy your notes after writing your report?

Activities

1. See Activity 2-3-1: Scene Documentation

CTS Guide Reference: CTS 2-3

Unit 3: Evidence Collection/Preservation

Topic 3-1: Processing Evidence and Establishing Chain of Custody

Terminal Learning Objective

At the end of this topic, a student, given tools, equipment, and evidence collection materials, will be able to locate, document, collect, label, package, and store evidence to properly identify and preserve for use in testing, legal, or other proceedings and examinations, establish the chain of custody, and avoid cross-contamination and investigator-inflicted damage to evidentiary items.

Enabling Learning Objectives

1. Explain the impact of evidence collection on the investigation
2. Describe the authority requirements for establishing a chain of custody
3. Describe an evidence log and its purpose
4. Explain the types, capabilities, and limitations of tools and equipment used to locate evidence

5. Describe the impact of removing evidentiary items on civil or criminal proceedings (exclusionary or fire-cause supportive evidence)
6. Discuss legal repercussions regarding evidence spoliation
7. Identify the types of laboratory tests available
8. Discuss packaging techniques and materials
9. Describe how to secure and store evidence
10. Recognize different types of evidence
11. Determine whether evidence is critical to the investigation

Discussion Questions

1. How significant is a chain of custody?
2. How can you compromise the chain of custody?
3. Why is it important to leave space in a container of fire debris?
4. What is the importance of properly packaging evidence?
5. How do you properly mark an evidence container?

Activities

1. To be determined by the instructor.

Instructor Note

1. Refer to Physical Evidence Bulletins (Office of the Attorney General)

CTS Guide Reference: CTS 3-2

Topic 3-2: Processing Victims and Fatalities

Terminal Learning Objective

At the end of this topic, a student, given relevant protocols for the AHJ, tools, equipment, and appropriate personnel, will be able to process victims and fatalities to discover and preserve all evidence while utilizing proper procedures and following protocol.

Enabling Learning Objectives

1. Recognize the types of evidence associated with fire victims and fatalities
2. Discuss evidence preservation methods
3. Use observational skills
4. Apply protocols to given situations

Discussion Questions

1. What evidence would you collect from a victim?
2. How do you approach a fatality differently from a nonfatal fire scene?
3. What protocols does your jurisdiction have for a fatal fire?

Activities

1. To be determined by the instructor.

Instructor Notes

1. Having a guest lecturer from the Coroner's Office would be effective for this topic.

CTS Guide Reference: CTS 3-1

Topic 3-3: Selecting Evidence for Analysis

Terminal Learning Objective

At the end of this topic, a student, given a fire scene, and information/evidence collected from the investigation, will be able to select evidence for analysis so the items support specific investigation needs.

Enabling Learning Objectives

1. Discuss the criteria for selecting evidence for analysis
2. Explain the purposes for submitting items for analysis
3. Identify the types of analytical services available
4. Describe the capabilities and limitations of the services performing the analysis
5. Evaluate the fire scene to determine forensic, engineering, or laboratory needs

Discussion Questions

1. Why submit evidence for analysis?
2. What types of evidence should be analyzed?
3. How does your evidence determine the type of analysis you would consider?

Activities

1. To be determined by the instructor.

CTS Guide Reference: CTS 3-3

Topic 3-4: Maintaining a Chain of Custody

Terminal Learning Objective

At the end of this topic, a student, given tools, equipment, and evidence tags, bags, or logs, will be able to maintain a chain of custody with written documentation for each piece of evidence.

Enabling Learning Objectives

1. Explain the rules of custody and transfer procedures
2. Describe methods of recording the chain of custody
3. Execute the chain of custody procedures
4. Accurately complete necessary documents

Discussion Questions

1. Where should you store evidence?
2. How do you store evidence?
3. What are the different methods of recording the chain of custody?

Activities

1. To be determined by the instructor.

CTS Guide Reference: CTS 3-4

Topic 3-5: Preparing a Fire Investigation Report

Terminal Learning Objective

At the end of this topic, a student, given a case file, tools, equipment, and a specific audience, will be able to prepare a written report that accurately reflects the investigative findings, is concise, expresses the investigator's opinion, contains facts and data that the

investigator relies on in rendering an opinion, contains the reasoning of the investigator to reach each opinion, and meets the needs or requirements of the intended audience(s).

Enabling Learning Objectives

1. Discuss the elements of writing
 - Purpose
 - Audience
 - Clarity
 - Unity
 - Coherence
2. Describe the typical components of a fire investigation report
 - Summary of events
 - Notification and response/chronology of events
 - Property description
 - Scene observations
 - Witness statements
 - Opinions and conclusions
 - All appropriate attachments
3. Explain how to convert investigative notes into a fire investigation report
4. Identify the types of audiences and their respective needs or requirements
5. Use writing skills
6. Analyze information
7. Determine the audience's needs or requirements

Discussion Questions

1. How does a fire investigation report differ from other investigative reports?
2. What is the importance of good writing skills?
3. What is the purpose of a fire investigation report?
4. What should be included in the report? What should not be included?
5. How detailed should the report be?

Activities

1. Activity 3-5-1: Fire Investigation Report

Instructor Notes

1. Refer to the Five Elements of Writing

CTS Guide Reference: CTS 6-1

Topic 3-6: Disposing of Evidence

Terminal Learning Objective

At the end of this topic, a student, given judicial or statutory requirements, jurisdictional or agency requirements, and information/evidence collected from the investigation, will be able to dispose of evidence safely in compliance with jurisdictional or agency requirements.

Enabling Learning Objectives

1. Discuss judicial or statutory requirements for disposal
2. Identify disposal services available
3. Describe common disposal procedures and problems
4. Use documentation skills

Discussion Questions

1. How long do you keep evidence?
2. What are some options for disposing evidence?
3. Who may require notification before disposing of evidence?

Activities

1. To be determined by the instructor

Instructor Note

1. Refer to Evidence and Property Management Guide (POST)

CTS Guide Reference: CTS 3-5

DRAFT

Fire Investigation 1B

Time Table

Segment	Lecture Time	Activity/Skills Time	Total Unit Time
Unit 1: Introduction			
Topic 1-1: Orientation and Administration			
Lecture	0:30		
To be determined by the instructor			
Topic 1-2: Fire Investigator Certification Process			
Lecture	0:30		
To be determined by the instructor			
Unit 1 Totals	1:00	0:00	1:00
Unit 2: Scene Documentation			
Topic 2-1: Photographing the Scene			
Lecture	4:00		
Activity 2-3-1: Scene Documentation			
Topic 2-2: Diagramming the Scene			
Lecture	1:00		
Activity 2-3-1: Scene Documentation			
Topic 2-3: Constructing Investigative Notes			
Lecture	1:00		
Activity 2-3-1: Scene Documentation		4:00	
Unit 2 Totals	6:00	4:00	10:00
Unit 3: Evidence Collection/Preservation			
Topic 3-1: Processing Evidence and Establishing Chain of Custody			
Lecture	6:00		
To be determined by the instructor			
Topic 3-2: Processing Victims and Fatalities			
Lecture	2:00		
To be determined by the instructor			
Topic 3-3: Selecting Evidence for Analysis			
Lecture	2:00		
To be determined by the instructor			
Topic 3-4: Maintaining a Chain of Custody			
Lecture	1:00		
To be determined by the instructor			
Topic 3-5: Preparing a Fire Investigation Report			
Lecture	3:00		
Activity 3-5-1: Fire Investigation Report (in class and homework)		6:00 In class	

Fire Investigation 1B

Segment	Lecture Time	Activity/Skills Time	Total Unit Time
Topic 3-6: Disposing of Evidence			
Lecture	0:30		
To be determined by the instructor			
Unit 3 Totals	14:30	6:00	20:30
Lecture, Activity, and Unit Totals:	21:30	10:00	31:30

Course Totals

Total Lecture Time (LT)	21:30
Total Activity Time (AT)	10:00
Total Testing Time (TT)	2:00
Total Course Time	33:30

Fire Investigation 1B

Activity 2-3-1: Scene Documentation

Scene Documentation

Activity 2-3-1

Format: Individual

Time Frame: 4:00

Description

This activity provides students with an opportunity using a simulated fire scene to photograph evidentiary items, prepare a photo log for each item, diagram the scene, and construct investigative notes.

Materials

- Simulated fire scene(s)
- Evidentiary items
- Tools and equipment
- Device capable of taking photographs (i.e., tablet or cell phone)
- Graph paper
- Photo log
- Note pad

Instructions

1. Photograph three (3) evidentiary items (overall, midrange, and close-up for each item).
2. Prepare a photo log for all photographs.
3. Using graph paper, diagram the fire scene.
4. Construct investigative notes.
5. Submit your documents to the instructor (hard copy or electronic).

Instructor Notes

1. Divide students into groups.
2. Assign each group to a simulated fire scene.
3. Provide a minimum of three (3) evidentiary items at each scene.
4. Review each student's documents for the following:
 - Photographs accurately document and support scene findings
 - Photo log completed
 - Diagram identifies evidence, pertinent contents, significant patterns, and area(s) or point(s) of origin
 - Investigative notes provide accurate documentation of the scene and represent complete scene findings

Fire Investigation 1B

Activity 3-5-1: Fire Investigation Report

Fire Investigation Report

Activity 3-5-1

Format: Individual

Time Frame: In-class: 2:00 for starting the activity,
any remaining work to be completed by the student as homework
In-class: 4:00 for discussion of completed reports

Description

This activity provides students with an opportunity to prepare a fire investigation report for a criminal case.

Materials

- Blank face sheet for a fire investigation report
- Case file that, at a minimum, includes:
 - Witness statements (written, audio, or video)
 - Scene photographs with photo log
 - Evidence log
 - Sketches and diagrams
 - Investigative notes
 - Dispatch log
- Tablet or laptop computer

Instructions

1. Review the case file.
2. Create a complete fire investigation report for a District Attorney that, at a minimum, includes:
 - Summary of events
 - Notification and response/chronology of events
 - Property description
 - Scene observations
 - Witness statements
 - Opinions and conclusions
 - All appropriate attachments

Instructor Notes

1. This is a criminal room-and-content sized fire investigation.
2. Provide a case file to each student.
3. Using a model fire investigation report for the case, ask students to discuss how they handled various components of the report.



Preparation for Legal Proceedings

Course Plan

Course Details

Certification:	Fire Investigator
CTS Guide:	Fire Investigator (Month 2016)
Description:	This course provides information on legal considerations for a court proceeding. Topics include coordinating expert resources, formulating an opinion, presenting investigative findings, and testifying during legal proceedings. The 2014 edition of NFPA 1033 Standard for Fire Investigator Professional Qualifications is the basis for this course.
Designed For:	Fire investigators and law enforcement officers responsible for conducting fire investigations
Prerequisites:	PC 832(a): Arrest Fire Investigation 1A: Basic Fire Investigation Fire Investigation 1B: Evidence and Documentation
Corequisite:	Motive, Means, and Opportunity: Determining Responsibility in an Arson Case (CFITrainer.net)
Standard:	Complete all activities Complete the summative test with a minimum score of 80%
Hours:	Lecture: 18:00 Activity: 21:00 Testing: 1:00
Hours (Total):	40:00
Maximum Class Size:	24
Instructor Level:	This courses requires one (1) primary instructor
Instructor/Student Ratio:	1:24
Restrictions:	None
SFT Designation:	CFSTES

Required Resources

Instructor Resources

To teach this course, instructors need:

- *Fire Investigator Principles and Practice*, 4th Edition (2016), Jones and Bartlett
or
Fire Investigator, 2nd Edition, IFSTA
- *NFPA 921: Guide for Fire & Explosion Investigations*, Current Edition
- Evidence samples
- Sample curriculum vitae
- Criminal case files
- Qualified persons for conducting a mock trial

Online Instructor Resources

The following instructor resources are available online at

<http://osfm.fire.ca.gov/training/instructorscorner.php>:

- Fire Investigator 1C required activities

Student Resources

To participate in this course, students need:

- *Fire Investigator Principles and Practice*, 4th Edition (2016), Jones and Bartlett
or
Fire Investigator, 2nd Edition, IFSTA
- *NFPA 921: Guide for Fire & Explosion Investigations*, Current Edition
- Motive, Means, and Opportunity: Determining Responsibility in an Arson Case (CFITrainer.net)
- Tablet or laptop computer
- Documentation for developing a curriculum vitae
- Proper attire for the courtroom

Facilities, Equipment, and Personnel

The following facilities, equipment, or personnel are required to deliver this course:

- Standard learning environment or facility
- Writing board or paper conference pads
- Markers, erasers
- Computer or tablet with presentation or other viewing software
- Amplification devices
- Projector and screen

Unit 1: Introduction

Topic 1-1: Orientation and Administration

Terminal Learning Objective

At the end of this topic, a student will be able to identify facility and classroom requirements and identify course objectives, events, requirements, assignments, activities, resources, evaluation methods, and participation requirements in the course syllabus.

Enabling Learning Objectives

1. Identify facility requirements
 - Restroom locations
 - Food locations
 - Smoking locations
 - Emergency procedures
2. Identify classroom requirements
 - Start and end times
 - Breaks
 - Electronic device policies
 - Special needs and accommodations
 - Other requirements as applicable
3. Review course syllabus
 - Course objectives
 - Calendar of events
 - Course requirements
 - Student evaluation process
 - Assignments
 - Motive, Means, and Opportunity: Determining Responsibility in an Arson Case (CFITrainer.net) must be completed on-line as homework before the end of this class
 - 4 hours
 - Course completion certificate or transcript required
 - Activities
 - Required student resources
 - Class participation requirements

Discussion Questions

1. What are the course requirements?
2. How will you be evaluated?

Activities

1. To be determined by the instructor.

Topic 1-2: Fire Investigator Certification Process

Terminal Learning Objective

At the end of this topic, a student will be able to identify the courses and requirements for Fire Investigator certification, and be able to describe the certification task book and testing process.

Enabling Learning Objectives

1. Identify the courses required for Fire Investigator certification
 - Fire Investigation 1A: Basic Fire Investigation
 - Fire Investigation 1B: Evidence and Documentation
 - Fire Investigation 1C: Preparation for Legal Proceedings
 - POST certified Interview and Interrogation #31445 (40 hours)
 - NWCG FI-210 Wildland Fire Origin and Cause Determination (38 hours)
2. Identify any other requirements for Fire Investigator certification
 - Experience [one (1) of the following two (2) options]
 - Have a minimum of two (2) year full-time, paid experience in a California fire department with the primary responsibility as a fire investigator
 - Or
 - Have a minimum of four (4) years volunteer or part-time, paid experience in a California fire department with the primary responsibility as a fire investigator
 - Investigate 20 fires, 10 must be structure fires, as the primary investigator and develop a complete fire investigation report
 - Be appointed to the rank or position of Fire Investigator
 - Performing in an acting capacity does not qualify
3. Describe the certification task book process
 - Complete all prerequisites and course work
 - Submit application and fees to request certification task book
 - Complete all job performance requirements included in the task book
 - Must have identified evaluator verify individual task completion via signature
 - Must have Fire Chief or authorized representative verify task book completion via signature
 - Must be employed by a California Fire Agency in the position prior to submitting completed task book to State Fire Training
4. Describe the certification testing process
 - Complete course work
 - Schedule online certification test
 - Schedule skills evaluation test

Discussion Questions

1. How many courses are there in the Fire Investigator certification track? What are they?
2. What is the minimum length of experience required for a full-time, paid fire investigator?

Activities

1. To be determined by the instructor.

Unit 2: Legal Considerations

Topic 2-1: Gathering Reports and Records for a Legal Proceeding

Terminal Learning Objective

At the end of this topic, a student, given reports and records from the investigation, will be able gather reports and records for a legal proceeding that are authentic, complete, and applicable to the investigation while maintaining the chain of custody to ensure the material is admissible.

Enabling Learning Objectives

1. Describe the types of reports and records needed to facilitate determining responsibility for the fire
 - Police reports
 - Fire reports
 - Insurance policies
 - Financial records
 - Deeds
 - Private investigator reports
 - County records
 - Death certificates/Coroner's report
 - Outside photos and videos
2. Identify the location of these reports and records
3. Identify the reports and records necessary for the investigation
4. Implement the chain of custody
5. Use organizational skills

Discussion Questions

1. What type of information is available from local, state, and federal government?
2. How do you obtain information from an insurance company?

Activities

1. To be determined by the instructor.

CTS Guide Reference: CTS 5-1

Topic 2-2: Evaluating the Investigative File

Terminal Learning Objective

At the end of this topic, a student, given all available case file information, will be able to evaluate the investigative file to identify areas for further investigation, interpret the relationship between gathered documents and information, and discover corroborative evidence and information discrepancies.

Enabling Learning Objectives

1. Describe the case file assessment and/or evaluation process
2. Use information assessment skills
3. Use correlation skills
4. Use organizational skills

Discussion Questions

1. What are some of the ways you can evaluate or assess a case file?
2. What is your agency's evaluation process?
3. Where are some factors that would affect the solvability of a fire investigation?

Activities

1. Students will be evaluating a case file in Activity 2-5-1.

Instructor Note:

1. You can find several Case Solvability Factor worksheets/documents online.

CTS Guide Reference: CTS 5-2

Topic 2-3: Coordinating Expert Resources

Terminal Learning Objective

At the end of this topic, a student, given a case file and evidence, will be able to coordinate expert resources to match expert's competencies to the specific investigation needs, justify financial expenditures, and further the investigative goals of determining cause and responsibility.

Enabling Learning Objectives

1. Describe how to assess one's own expertise
 - Curriculum vitae
2. Identify the qualifications of an expert witness
3. Identify the types of expert resources
4. Discuss the need for expert resources
5. Network with other investigators to identify expert resources
6. Develop a utilization plan for using expert resources
7. Question experts relative to their qualifications
8. Apply expert resources to further the investigation

Discussion Questions

1. What methods are used to assess one's own expertise?
2. Under what circumstances might you want to obtain the services of an expert witness?
3. Why are expert witnesses important in a fire investigation?

Activities

1. Activity 2-3-1: Curriculum Vitae (in class and homework)

CTS Guide Reference: CTS 5-3

Topic 2-4: Formulating an Opinion

Terminal Learning Objective

At the end of this topic, a student, given a case file, will be able to formulate an opinion concerning origin, cause, and responsibility for the fire supported by data, facts, records, reports, documents, and evidence.

Enabling Learning Objectives

1. Describe how to use the scientific method to formulate your opinion
2. Discuss the level of certainty
3. Discuss California statutes, regulations, and local ordinances relating to fire losses
 - Business and Professions Code
 - Health and Safety Code
 - Insurance Code
 - Penal Code
 - Public Resource Codes
 - Vehicle Code
 - Welfare and Institutions Code
4. Use analytical skills

Discussion Questions

1. How would you use the evidence from your investigation to form an opinion?
2. What information in your case is important to form your opinion?
3. What steps are involved in determining your level of certainty?
4. How do the facts and evidence in your case support each element of the relevant statute?

Activities

1. To be determined by the instructor.

CTS Guide Reference: CTS 5-5

Topic 2-5: Presenting Investigative Findings

Terminal Learning Objective

At the end of this topic, a student, given a case file and a specific audience, will be able to present investigative findings that are accurate and include only need-to-know information for the intended audience.

Enabling Learning Objectives

1. Discuss the types of investigative findings
2. Identify informational needs of various audiences
3. Discuss the impact of releasing information
4. Use communication skills
5. Determine audience needs
6. Correlate findings

Discussion Questions

1. How do you educate an attorney about a fire investigation case?

2. How would you determine what information present to a particular audience?
3. What information would you allow to be released to the media?

Activities

1. Activity 2-5-1: Presenting Investigative Findings

CTS Guide Reference: CTS 6-2

Topic 2-6: Testifying During Legal Proceedings

Terminal Learning Objective

At the end of this topic, a student, given consultation with legal counsel and a case file, will be able to testify during legal proceedings to present all pertinent investigative information and evidence clearly and accurately while adhering to the appropriate demeanor and attire.

Enabling Learning Objectives

1. Discuss the types of investigative findings within the case file
2. Discuss courtroom etiquette, professional demeanor, and attire
3. Discuss due process and legal proceedings
4. Use communication and listening skills
5. Differentiate facts from opinion
6. Use acceptable procedures, practices, and etiquette during legal proceedings

Discussion Questions

1. Why is it important to consult with the attorney before you testify?
2. Who is your primary audience when testifying?
3. What is the difference between a trial and a deposition?
4. What is a preliminary hearing?
5. What actions should you take if you misstate a fact during testimony?
6. What should you do if you notice mistakes in a pretrial transcript?

Activities

1. Activity 2-6-1: Courtroom Testimony

CTS Guide Reference: CTS 6-3

Fire Investigation 1C

Time Table

Segment	Lecture Time	Activity/Skills Time	Total Unit Time
Unit 1: Introduction			
Topic 1-1: Orientation and Administration			
Lecture	0:30		
To be determined by the instructor		0:00	
Topic 1-2: Fire Investigator Certification Process			
Lecture	0:30		
To be determined by the instructor		0:00	
Unit 1 Total	1:00	0:00	1:00
Unit 2: Legal Considerations			
Topic 2-1: Gathering Reports and Records for a Legal Proceeding			
Lecture	2:00		
To be determined by the instructor		0:00	
Topic 2-2: Evaluating the Investigative File			
Lecture	1:00		
See Activity 2-5-1		0:00	
Topic 2-3: Coordinating Expert Resources			
Lecture	4:00		
Activity 2-3-1: Curriculum Vitae (in class and homework)		1:00 In class	
Topic 2-4: Formulating an Opinion			
Lecture	4:00		
To be determined by the instructor		0:00	
Topic 2-5: Presenting Investigative Findings			
Lecture	2:00		
Activity 2-5-1: Presenting Investigative Findings		4:00	
Topic 2-6: Testifying During Legal Proceedings			
Lecture	4:00		
Activity 2-6-1: Courtroom Testimony		16:00	
Unit 2 Total	17:00	21:00	38:00
Unit Total	18:00	21:00	39:00

Course Totals

Total Lecture Time (LT)	18:00
Total Activity Time (AT)	*21:00
Total Testing Time (TT)	1:00
Total Course Time	40:00

*Note: Activity time will vary depending on the number of students in the program. It is important to remember that the suggested skill hours are for 24 students.

Fire Investigation 1C

Activity 2-3-1: Curriculum Vitae

Curriculum Vitae

Activity 2-3-1

Format: Individual

Time Frame: 1:00 in-class; homework

Description

This activity provides students with an opportunity to assess one's own expertise by developing a curriculum vitae (CV).

Materials

- Tablet or laptop computer
- Documentation for the following:
 - Name
 - Age
 - Employer
 - Title
 - Duties
 - Years of experience
 - Estimated number of fires investigated
 - Courtroom testimony
 - Fire investigative/law enforcement training and education including live burns
 - Formal education
 - Professional memberships
 - Certifications
 - Licenses
 - Books/articles published
 - Relevant subscriptions

Instructions

1. Collect the information you need for development
2. Create your CV

Instructor Notes

- Provide examples of fire investigator CVs
- Assist students in creating their CV
- Review and provide feedback

Fire Investigation 1C

Activity 2-5-1: Presenting Investigative Findings

Presenting Investigative Findings

Activity 2-5-1

Format: Group

Time Frame: Development time is homework
1:00 presentation time for each group

Description

This activity provides students with an opportunity to present a case to a District Attorney for filing criminal charges.

Materials

- One (1) different criminal case file per group

Instructions

1. As a group, thoroughly evaluate your case file.
2. Develop talking points for your section of the case.
3. Each member of the group presents their findings.

Instructor Notes

- Recommend a qualified attorney to participate in the presentations.
- Provide feedback and recommendations to each group after their presentation.

Fire Investigation 1C

Activity 2-6-1: Courtroom Testimony

Courtroom Testimony

Activity 2-6-1

Format: Group

Time Frame: 4:00 per group

Description

This activity provides students with an opportunity to testify in a legal proceeding by presenting evidence that supports their case.

Materials

- Criminal case files used in Activity 2-5-1
- Actual courtroom (recommended) or a room setup to simulate a courtroom
- Proper attire
- Curriculum vitae
- Scripted questions for the prosecuting attorney

Personnel

- Prosecuting attorney
 - An experienced fire investigator with courtroom experience may fill this position if a District Attorney is unavailable
- Criminal defense attorney
- Judge
 - Primary instructor may fill this position
- Jury
 - Students from different groups may fill these positions

Instructions

1. Your group and case file remains the same from Activity 2-5-1
2. Be prepared to testify on any portion of the case
3. Dress appropriately for court

Instructor Notes

- Members of the group remain sequestered until they testify
- After testifying, they can remain in the courtroom and observe
- Each student must be subject to direct- and cross-examination
- Students may have the case file with them while testifying
- Provide feedback immediately after each student testifies
 - Attorneys and Instructor
 - Jury (if time allows)