



**DEPARTMENT OF FORESTRY AND FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
STATE FIRE TRAINING**

P.O. Box 944246
SACRAMENTO, CA 94244-2460
(916) 902-9738
Website: www.fire.ca.gov



Date: April 12, 2024

To: Statewide Training and Education Advisory Committee
State Board of Fire Services

From: Chris Fowler, Chief of State Fire Training

SUBJECT/AGENDA ACTION ITEM:
Fire Investigator (2022)

Recommended Actions:
First read of the updated Fire Investigator curriculum.

Background Information:
SFT updated the Fire Investigator curriculum in alignment with National Fire Protection Association (NFPA) 1033: Standard for Professional Qualifications for Fire Investigator (2022). This curriculum was developed to ensure consistent, high quality fire investigations across California.

Analysis/Summary of Issue:

Fire Investigator (2022) Curriculum Launch
SFT will release the 2022 Fire Investigator curriculum on September 1, 2024.

Fire Investigator (2017) Curriculum Retirement
Effective December 31, 2024, SFT will retire Fire Investigator (2017). On January 1, 2025, SFT will remove the curriculum from the SFT course catalog, and it will no longer be available.

Candidates pursuing Fire Investigator certification using the 2017 curriculum can complete their certification requirements in one of two ways:

- Complete and submit their Fire Investigator Certification Task Book (2017) by December 31, 2024
- Complete and submit their Fire Investigator Certification Task Book (2017) **and** the Certification Task Book Update 22-1

Candidates who do not meet these deadlines will be required to meet the Fire Investigator (2022) certification requirements.

CTS Guide

SFT updated the 2017 Fire Investigator CTS Guide to the current template and to document how training standards align with NFPA 1033 (2022).

- Added a new Section 1: Roles and Responsibilities with one standard based on NFPA 1033
- Added a new Section 6: Wildland Fire Investigation with five standards based on NWCG FI-110 to enable urban fire investigators to meet minimum wildland education standards
- Merged Section 7: Wildland Fire Origin and Cause Determination into the new and expanded Wildland section

Course Plan 1A

- Updated to current template
- Removed corequisite: Fire Behavior and Combustion (CA Community College core curriculum), Fire Control 1 (1996), or equivalent fire academy training
- Changed CFITrainer.net courses Basic Electricity and Ethics and the Fire Investigator from corequisites to prerequisites
 - Participants need knowledge prior to starting 1A
- Increased course time from 39.5 to 40 hours for consistency with other courses
- Decreased maximum class size from 40 to 30 to make course execution more manageable for instructors
- Changed instructor ratios for lecture from 1:40 to 1:30 and for application from 1:10 to 1:15 to mirror class size change
- Combined Topic 3-1: Analyzing Fire Patterns and Topic 3-2: Interpreting Individual Fire Patterns into one topic, 3-1: Interpreting and Analyzing Fire Effects

Course Plan 1B

- Updated to current template
- Changed title from 1B: Evidence and Documentation to 1B: Evidence, Documentation, Interviews, and Wildland
- Changed CFITrainer.net Introduction to Evidence from a corequisite to a prerequisite
 - Participants need knowledge prior to starting 1B

- Added two additional CFITrainer.net courses as prerequisites to close knowledge gaps
 - Introduction to Evidence
 - Wildland Fires Investigation
- Increased course time from 33.5 hours to 40 hours to accommodate new wildland content
- Decreased maximum class size from 40 to 30 to make course execution more manageable for instructors
- Changed instructor ratios from 1:40 to 1:30 to mirror class size change
- Expanded the Unit on Evidence Collection and Preservation from five topics to nine topics
- Added a new Unit for Wildland Fire Investigation with five topics

Course Plan 1C

- Updated to current template
- Changed CFITrainer.net Motive, Means, and Opportunity: Determining Responsibility in an Arson Case from a corequisite to a prerequisite
 - Participants need knowledge prior to starting 1C
- Increased maximum class size from 24 to 30 to keep course cohort consistent
- Changed instructor ratios from 1:24 to 1:30 to mirror class size change

Certification Task Book

- Updated to current template
- Updated JPR language to align with NFPA 1033 (2022)
 - Language revisions to the text do not impact job performance requirement (JPR) intent
- SFT added four wildland-specific standards under OSFM authority
 - See JPRs 21, 22, 23, and 24
- Added the following language under the Fire Chief definition to make it easier for fire investigators who operate within law enforcement agencies to complete their task book:
 - A police chief, sheriff, or equivalent may partner with a fire chief or their authorized designee already on file with SFT to initiate (when applicable) and then review and confirm the completion of a candidate's certification task book. The fire chief or their authorized designee must be the signatory.
- Relocated courses listed under Prerequisites to Education section
- Updated Education section to include options for 2017 and 2022 courses to count toward 2022 certification
- Changed Experience requirements to ensure candidates have the minimum required full-time experience and include law enforcement partners

- Work time served:
 - 2014 language: Have a minimum of one year full-time paid or two years' volunteer or part-time paid experience in a California fire department as a fire fighter with responsibility for origin cause determination while on duty **or** have a minimum of one year full-time paid or two years' volunteer or part-time paid experience in a California law enforcement agency as a fire investigator for origin and cause determination
 - 2022 requirement: A minimum of two (2) years' full-time paid experience with a recognized California fire or law enforcement agency
- Number of fires investigated:
 - 2014 requirement: Investigate 20 fires, 10 must be structure fires, as the primary investigator and develop complete fire investigation reports. **No investigations shall be accepted prior to the completion of Fire Investigation 1A (2017).**
 - 2022 requirement: Investigate 25 fires as the lead investigator (verified in chief's, sheriff's, or equivalent's letter).
- Removed the Supporting Documentation requirement because this content is now built into the course

Certification Task Book Update

- SFT created Certification Task Book Update 22-1 to enable candidates pursuing Fire Investigator (2017) certification to transition to the 2022 certification requirements.

Existing Registered Instructors

SFT will authorize existing Fire Investigator (2017) Registered Instructors who meet the following requirements to teach Fire Investigator (2022) courses. SFT will update the SFT User Portal.

- Be an OSFM Registered Instructor
- Complete the virtual Fire Investigator (2022) Instructor Update course*
- Complete the required education to teach the 2022 curriculum (see table below)
- Complete experience verification letter
 - Hold the rank of Fire Investigator for a minimum of two years full-time in a recognized California fire or law enforcement agency
- Hold the rank of Fire Investigator for a minimum of two years full-time in a recognized California fire or law enforcement agency
- Submit the applicable web form

Fire Investigator (2022) Course	Education Requirements for Existing Instructors to Teach 2022 Course
Fire Investigator 1A: Basic Fire Investigation (2022)	<ul style="list-style-type: none"> ● Fire Investigator 1A: Basic Fire Investigation (2017) ● Basic Electricity (CFITrainer.net)

	<ul style="list-style-type: none"> • Ethics and the Fire Investigator (CFITrainer.net)
Fire Investigator 1B: Interview, Evidence, and Documentation, and Wildland (2022)	<ul style="list-style-type: none"> • Fire Investigator 1B: Evidence and Documentation (2017) • FI-110: Wildland Fire Observations and Origin Scene Protection for First Responders (NWCG) or Wildland Fires Investigation (CFITrainer.net) • Fundamentals of Interviewing (CFITrainer.net) • Introduction to Evidence (CFITrainer.net)
Fire Investigator 1C: Preparation for Legal Proceedings (2022)	<ul style="list-style-type: none"> • Fire Investigator 1C: Preparation for Legal Proceedings (2017) • Motive, Means, Opportunity: Determining Responsibility in an Arson Case (CFITrainer.net)

* Cadre members are not required to complete the virtual Fire Investigator Instructor Update course.

New Instructor Registration

New Fire Investigator instructor candidates shall:

- Be an OSFM Registered Instructor
- Be an OSFM certified Fire Investigator (2022)
- Have held a position responsible for fire investigation for three years in a recognized California fire or law enforcement agency (verified in fire chief letter)
- Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Fire Investigator training
- Submit an SFT Instructor Registration Application
- Pay the registration fee (is applicable)



Fire Investigator (2022) Implementation Plan

Issued: **Month ##**, 2024

OVERVIEW

This document is intended to provide information for all State Fire Training (SFT) stakeholders on the Fire Investigator (2022) curriculum requirements. Stakeholders are encouraged to study this information carefully and seek clarification from SFT if questions arise.

The Fire Investigator (2022) curriculum is presented as a California Fire Service Training and Education System (CFSTES) series. SFT updated the curriculum training standard (CTS) guide, three course plans, and certification task book based on the current National Fire Protection Association (NFPA) Standard, NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022).

IMPLEMENTATION

Candidates entering the SFT system should enroll in the Fire Investigator (2022) courses and comply with the Fire Investigator (2022) requirements.

New Curriculum	Hours
1A: Basic Fire Investigation (2022)	40 hours
1B: Evidence, Documentation, Interviews, and Wildland (2022)	40 hours
1C: Preparation for Legal Proceedings (2022)	40 hours

Fire Investigator (2022) Curriculum..... September 1, 2024

Retirement of Fire Investigator (2017) Curriculum..... December 31, 2024

Effective December 31, 2024, SFT will retire Fire Investigator (2017). On January 1, 2025, SFT will remove the curriculum from the SFT course catalog, and it will no longer be available.

Candidates pursuing Fire Investigator certification using the 2017 curriculum can complete their certification requirements in one of two ways:

- Complete and submit their Fire Investigator Certification Task Book (2017) by December 31, 2024
- Complete and submit their Fire Investigator Certification Task Book (2017) **and** the Certification Task Book Update 22-1

Candidates who do not meet these deadlines will be required to meet the Fire Investigator (2022) certification requirements.

INSTRUCTOR REQUIREMENTS

Instructor Registration..... Available September 1, 2024

Instructors for the Fire Investigator (2022) curriculum must meet the SFT requirements for Registered Instructor. Instructors must have appropriate education and practical experience relating to the specific course content.

Existing Registered Instructors

SFT will authorize existing Fire Investigator (2017) Registered Instructors who meet the following requirements to teach Fire Investigator (2022) courses. SFT will update the SFT User Portal.

- Be an OSFM Registered Instructor
- Complete the virtual Fire Investigator (2022) Instructor Update course*
- Complete the required education to teach the 2022 curriculum (see table below)
- Complete experience verification letter
 - Hold the rank of Fire Investigator for a minimum of two years full-time in a recognized California fire or law enforcement agency
- Submit the applicable web form

Fire Investigator (2022) Course	Education Requirements to Teach 2022 Course
Fire Investigator 1A: Basic Fire Investigation (2022)	<ul style="list-style-type: none"> • Fire Investigator 1A: Basic Fire Investigation (2017) • Basic Electricity (CFITrainer.net) • Ethics and the Fire Investigator (CFITrainer.net)
Fire Investigator 1B: Interview, Evidence, and Documentation, and Wildland (2022)	<ul style="list-style-type: none"> • Fire Investigator 1B: Evidence and Documentation (2017) • FI-110: Wildland Fire Observations and Origin Scene Protection for First Responders (NWCG) or Wildland Fires Investigation (CFITrainer.net) • Fundamentals of Interviewing (CFITrainer.net) • Introduction to Evidence (CFITrainer.net)
Fire Investigator 1C: Preparation for Legal Proceedings (2022)	<ul style="list-style-type: none"> • Fire Investigator 1C: Preparation for Legal Proceedings (2017) • Motive, Means, Opportunity: Determining Responsibility in an Arson Case (CFITrainer.net)

* Cadre members are not required to complete the virtual Fire Investigator Instructor Update course.

New Instructor Registration..... Available September 1, 2024

New Fire Investigator instructor candidates shall:

- Be an OSFM Registered Instructor
- Be an OSFM-certified Fire Investigator (2022)

- Have held a position responsible for fire investigation for three years in a recognized California fire or law enforcement agency (verified in fire chief letter)
- Provide a letter signed by their Fire Chief or authorized designee that verifies qualification to deliver Fire Investigator training
- Submit an SFT Instructor Registration Application
- Pay the registration fee (if applicable)

POTENTIAL AGENCY IMPACTS

Fire agencies desiring to use the Fire Investigator (2022) curriculum as a requirement for their recruitment/promotion activities need to review the Fire Investigator (2022) curriculum requirements to be sure that all agency training needs are met. After review, fire agencies should update their job specifications and recruitment documentation to reflect these new courses and certification requirements.

Accredited Regional Training Programs (ARTP), Accredited Local Academies (ALA), community colleges, and all other local delivery venues need to review the curriculum and seek approval from their curriculum committee / program sponsor, as appropriate. ARTPs should review the new Fire Investigator (2022) curriculum and discuss potential impacts with their advisory committees.

Fire Investigator

(NFPA 1033: Fire Investigator)

Certification Training Standards Guide (2022)



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

Fire Investigator

Certification Training Standards Guide (2022)

Publication Date: Month Year

This CTS guide utilizes the following NFPA standards to provide the qualifications for State Fire Training's Fire Investigator (2022) curriculum:

- NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)

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).

Cover photo courtesy of Wayne Whitney, Captain/Fire Investigator, MAST, San Diego Fire Rescue.

Published by State Fire Training.

Table of Contents

Acknowledgements.....	1
How to Read a CTS Guide	2
Fire Investigator	4
Section 1: Roles and Responsibilities.....	4
1-1: Foundational Knowledge and Skills for a Fire Investigator	4
Section 2: Scene Examination	5
2-1: Securing the Fire Ground.....	5
2-2: Conducting an Exterior Survey	6
2-3: Conducting an Interior Survey.....	8
2-4: Interpreting and Analyzing Fire Patterns (Singular)	10
2-5: Interpreting and Analyzing Fire Patterns (Sequential)	11
2-6: Examining and Removing Fire Debris	12
2-7: Reconstructing Potential Area(s) of Origin.....	14
2-8: Inspecting and Analyzing the Performance of Building Systems	15
2-9: Discriminating the Effects of Explosions.....	16
Section 3: Scene Documentation.....	17
3-1: Sketching and Diagramming the Scene	17
3-2: Photographing the Scene	18
3-3: Constructing Investigative Notes.....	19
Section 4: Evidence Collection and Preservation	20
4-1: Utilizing Proper Procedures for Managing Victims and Fatalities.....	20
4-2: Working with Evidence	21
4-3: Selecting Evidence for Analysis	22
4-4: Maintaining a Chain of Custody.....	23
4-5: Disposing of Evidence	24
Section 5: Interview	25
5-1: Developing an Interview Plan.....	25
5-2: Conducting an Interview.....	26
5-3: Evaluating Interview Information.....	28
Section 6: Wildland Fire Investigation	29
6-1: Wildland Fire Investigator Roles and Responsibilities.....	29
6-2: Documenting a Wildland Fire Scene.....	30
6-3: Identifying Origin Areas.....	31
6-4: Identifying Wildland Fire Ignition Source and Cause	32
6-5: Working with Wildland Fire Evidence	33
Section 7: Post-Incident Investigation	34
7-1: Gathering Reports and Records.....	34
7-2: Evaluating the Investigative File	35
7-3: Coordinating Expert Resources	36
7-4: Establishing Evidence as to Means, Motive, and Opportunity.....	37

Table of Contents

7-5: Formulating an Opinion 38
Section 8: Presentations 39
8-1: Preparing a Written Report 39
8-2: Expressing Investigative Findings 40
8-3: Testifying During Legal Proceedings..... 41

Draft

Acknowledgements

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.

CAL FIRE

- Joe Tyler, Director
- Daniel Berlant, State Fire Marshal
- Chris Fowler, Chief of State Fire Training
- Mike Richwine, Chair, Statewide Training and Education Advisory Committee (STEAC); State Fire Marshal (Ret.), CAL FIRE

Cadre – 2023 Curriculum Development

Leadership

- Chris Fowler, Cadre Lead, Chief of State Fire Training
- Kristin Thiel, Editor, Sacramento State
- Allison L. Shaw, Editor, Sacramento State

Members (Development and Validation)

- Gillian Boxx, Captain/Arson Investigator, San Jose Fire Department
- Jeremy Davis, Assistant Fire Marshal, Santa Clara County Fire
- Stephen Engler, Lieutenant/Investigator (Ret.), San Francisco Fire Department BFI
- Tim Enright, Captain/Fire Investigator, Clements Fire District
- Bryan Gougé, Senior Arson and Bomb Investigator, CAL FIRE-OSFM
- Scott Kuhlman, Fire Captain/Fire Investigator, Orange County Fire Authority
- Shane Lauderdale, Deputy Fire Chief (Ret.), North County Fire Authority
- Zak Nokes, Fire Investigator, Sacramento Fire Department
- Edward Nordskog, Detective (Ret.), Los Angeles County Sheriff Arson/Bomb
- Brendan O’Leary, Assistant Deputy Chief (Ret.), San Francisco Fire Department
- Nicholas Schroeder, Arson and Bomb Investigator, CAL FIRE-OSFM
- Amy Segui, Assistant Fire Marshal, Petaluma Fire Department
- Jake Tomlin, Fire Marshal/Battalion Chief, City of Santa Clara Fire Department
- Christopher Van Cor, Deputy Chief, Investigations Unit, CAL FIRE
- Wayne Whitney, Captain/Fire Investigator, MAST, San Diego Fire Rescue

How to Read a CTS Guide

Overview

A curriculum training standard (CTS) guide lists the requisite knowledge, skills, and job performance requirements an individual must complete to become certified in a specific job function.

It also documents and justifies the OSFM-approved revisions to the curriculum's NFPA standard and identifies where each curriculum training standard is taught (course plan), tested (skill sheets), and validated (task book).

Individuals aspiring to meet State Fire Training's curriculum training standards must do so in accordance with the codes, standards, regulations, policies, and standard operating procedures applicable within their own agency or jurisdiction.

Format

Each curriculum training standard is comprised of eight sections.

Section Heading

Training standards are grouped by section headings that describe a general category. For example, the Fire Fighter 1 CTS guide includes the following section headings: NFPA Requirements, Fire Department Communications, Fireground Operations, and Preparedness and Maintenance.

Training Standard Title

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

Authority

The CTS guide references each individual 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 shaded gray.

Job Performance Requirements

This segment includes a written statement that describes a specific job-related task, the items an individual needs to complete the task, and measurable or observable outcomes.

Requisite Knowledge

This segment lists the knowledge that an individual must acquire to accomplish the job performance requirement.

Requisite Skills

This segment lists the skills that an individual must acquire to accomplish the job performance requirement.

Content Modification

This table documents and justifies any revisions to the NFPA standard that the development or validation cadres make during the development of a CTS guide.

Cross Reference

This table documents where each training standard is taught (course plan), tested (skill sheets), and validated (task book).

Draft

Fire Investigator

Section 1: Roles and Responsibilities

1-1: Foundational Knowledge and Skills for a Fire Investigator

Authority

1. NFPA 2022: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.1.2, 4.1.3, 4.1.4, 4.1.5, 4.1.6, 4.1.7

Job Performance Requirement

There are no job performance requirements identified for this training standard.

Requisite Knowledge

1. Employ all elements of the scientific method as the operating analytical process throughout the investigation and for the drawing of conclusions
2. Complete site safety assessments on all scenes
3. Follow regional and national safety standards
4. Include regional and national safety standards in organizational policies and procedures
5. Maintain necessary liaison with other interested professionals and entities
6. Adhere to all applicable legal and regulatory requirements
7. Understand the organization and operation of the investigative team within an incident management system
8. Remain current in the subjects listed as “requisite knowledge” as they relate to fire investigations, including fire science, fire investigation, fire scene safety, and building systems

Requisite Skills

1. None

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1A: Basic Fire Investigation (2022) <ul style="list-style-type: none">• Topic 1-3	N/A	N/A

Section 2: Scene Examination

2-1: Securing the Fire Ground

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.2.1

Job Performance Requirement

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.

Requisite Knowledge

1. Identify fire ground hazards
2. Identify types of evidence
3. Describe the importance of fire scene security
4. Describe evidence preservation
5. Describe issues relating to spoliation

Requisite Skills

1. Use marking devices, tools, and equipment

Content Modification

Block	Modification	Justification
RS1	Added “, tools, and equipment”.	It’s important to learn how to use marking tools and equipment alongside marking devices.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1A: Basic First Investigation (2022) <ul style="list-style-type: none">• Topic 2-1	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 1

2-2: Conducting an Exterior Survey

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.2.2

Job Performance Requirement

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

Requisite Knowledge

1. Identify types of building construction
2. Identify effects of fire on construction materials
3. Identify types of evidence commonly found in the perimeter
4. Identify evidence preservation methods
5. Identify effects of fire suppression
6. Identify fire behavior and spread
7. Identify fire patterns
8. Identify dangers of hazardous materials

Requisite Skills

1. Assess fire ground and structural condition
2. Evaluate the damage from and effects of the fire
3. Interpret and analyze fire patterns

Content Modification

Block	Modification	Justification
JPR	Changed “determined and all potential means of ingress and egress are discovered” to “determined, including all potential means of ingress and egress”.	The two concepts are directly linked.
RK8	Deleted “a basic awareness of”.	This entire course focuses on a basic awareness.
RS2	Changed “Observe” to “Evaluate”.	“Evaluate” is a stronger verb that is in better alignment with observable learning.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1A: Basic First Investigation (2022) <ul style="list-style-type: none">• Topic 2-2 (RK1, RK2, RK3, RK4, RK5, RK6, RK7, RK8, RS1, RS2, RS3)• Topic 2-3 (RS1)	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 2

Draft

2-3: Conducting an Interior Survey

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.2.3

Job Performance Requirement

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.

Requisite Knowledge

1. Identify types of building construction and interior finishes
2. Recognize effects of fire on interior finishes
3. Recognize effects of fire suppression
4. Identify fire behavior and spread
5. Identify evidence preservation methods
6. Identify fire patterns
7. Recognize effects of building contents on fire growth
8. Identify relationship of building contents to the overall investigation
9. Identify weather conditions at the time of the fire
10. Identify fuel moisture

Requisite Skills

1. Assess structural conditions
2. Evaluate the damage and effects of the fire
3. Determine the impact of fire suppression efforts on fire flow and heat propagation
4. Evaluate protected areas to determine the presence and/or absence of contents

Content Modification

Block	Modification	Justification
RK1 RK2	Changed “The types of building construction and interior finish and the effects on those materials” to “Identify types of building construction and interior finishes” and “Recognize effects of fire on interior finishes”.	It is important for learning to separate these two points.
RS2	Changed “Observe” to “Evaluate”.	“Evaluate” is a stronger verb that is in better alignment with observable learning.

Cross Reference

Course Plan	Skill Sheet	Task Book
<p>Fire Investigator 1A: Basic First Investigation (2022)</p> <ul style="list-style-type: none">• Topic 2-3 (RK1, RK2, RK3, RK4, RK5, RK6, RK7, RK8, RS1, RS3, RS4)• Topic 2-2 (RK9, RS2) <p>Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022)</p> <ul style="list-style-type: none">• Topic 4-3 (RK10)	N/A	<p>Fire Investigator (2022) Certification Task Book</p> <ul style="list-style-type: none">• JPR 3

Draft

2-4: Interpreting and Analyzing Fire Patterns (Singular)

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.2.4

Job Performance Requirement

Interpret and analyze fire patterns, given standard equipment and tools and some structural or content remains, so that each pattern is identified and analyzed with respect to the burning characteristics of the material involved, the stage of fire development, the effects of ventilation within the context of the scene, the relationship with all patterns observed, and the understanding of the methods of heat transfer that led to the formation of the patterns identified and analyzed, and the sequence in which the patterns were produced is determined.

Requisite Knowledge

1. Describe fire dynamics, including stages of fire development
2. Describe methods of heat transfer
3. Describe compartment fire development
4. Describe the interrelationship of heat release rate (HRR), form, and ignitibility of materials
5. Describe the impact and effects of ventilation on the creation of the fire patterns

Requisite Skills

1. Interpret and analyze the effects of burning characteristics of the fuel involved
2. Interpret and analyze the effects of ventilation on different types of materials

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1A: Basic First Investigation (2022) <ul style="list-style-type: none">• Topic 3-1	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 4

2-5: Interpreting and Analyzing Fire Patterns (Sequential)

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.2.5

Job Performance Requirement

Interpret and analyze fire patterns, given standard tools and equipment and some structural or content remains, so that fire development, fire spread, and the sequence in which fire patterns were developed (i.e., sequential pattern analysis) are determined; methods and effects of suppression are analyzed; fire patterns and effects indicating a hypothetical area or areas of origin are recognized and tested; false or refuted hypothetical areas of origin are eliminated; and all fire patterns are tested against the data, such that the area(s) of origin is correctly identified.

Requisite Knowledge

1. Describe fire development and spread based on fire chemistry
2. Describe fire dynamics, including compartment fire development
3. Describe fire spread
4. Describe fire suppression effects
5. Describe building construction
6. Describe fuel gas systems
7. Describe electricity and electrical systems

Requisite Skills

1. Analyze variations of fire patterns on different materials with consideration given to HRR, form, ignitability of the fuels involved, and the effects of ventilation
2. Understand the impact of different types of fuel packages on pattern creation
3. Analyze and correlate information

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1A: Basic First Investigation (2022) <ul style="list-style-type: none">• Topic 3-1	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 5

2-6: Examining and Removing Fire Debris

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.2.6

Job Performance Requirement

Examine and remove fire debris, given standard or, if necessary, special equipment and tools, so that fire patterns and fire effects concealed by debris are discovered and analyzed; all debris within the potential area(s) of origin is checked for fire cause evidence; potential ignition source(s) is identified; and evidence is preserved without investigator-inflicted damage or contamination.

Requisite Knowledge

1. Describe ignition processes
2. Describe 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 delayering techniques for debris removal
6. Identify types of fire cause evidence commonly found
7. Describe evidence spoliation and techniques to avoid it
8. Describe evidence collection and preservation methods and documentation

Requisite Skills

1. Demonstrate search techniques that further the discovery of fire cause evidence and ignition sources
2. Use search techniques that incorporate documentation
3. Collect and preserve evidence

Content Modification

Block	Modification	Justification
RK3	Changed “ease of ignition of fuels” to “Describe the ignitability of various fuels”.	This is clearer without changing the meaning.
RK4	Changed “use of tools, equipment, and special equipment during the debris search” to “Discuss the use of tools and equipment during the debris search”.	This is clearer without changing the meaning.
RK5	Changed “debris-layering techniques” to “Describe delayering techniques for debris removal”.	This is more correct.
RK7	Changed “understanding” to “Describe”.	“Describe” is a demonstratable skill.

Fire Investigator
Section 2: Scene Examination

RS1	Changed “Employ” to “Demonstrate”.	“Demonstrate” is a stronger verb that is in better alignment with observable learning.
-----	------------------------------------	--

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1A: Basic First Investigation (2022) <ul style="list-style-type: none">• Topic 3-3	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 6

Draft

2-7: Reconstructing Potential Area(s) of Origin

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.2.7
2. Office of the State Fire Marshal

Job Performance Requirement

Reconstruct potential area(s) 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; and items potentially critical to cause determination are returned to their prefire location as a means of hypothesis testing, such that the area(s) or point(s) of origin is discovered.

Requisite Knowledge

1. Describe the effects of fire on different types of material
2. Describe the importance and uses of reconstruction
3. Describe the reconstruction process

Requisite Skills

1. Examine all materials to determine the effects of fire
2. Identify and distinguish among different types of fire-damaged contents
3. Return materials to their original position using protected areas and fire patterns

Content Modification

Block	Modification	Justification
RK3	Added "Describe the reconstruction process".	Reconstructing a fire scene is necessary to identify fire effects and patterns leading to area of origin. Need to describe how to carry out the process.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1A: Basic First Investigation (2022) <ul style="list-style-type: none">• Topic 2-2, 2-3 (RK1, RS1, RS2)• Topic 3-4 (RK2, RK3)	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 7

2-8: Inspecting and Analyzing the Performance of Building Systems

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.2.8

Job Performance Requirement

Inspect and analyze the performance of building systems, including fire protection, detection and suppression systems, HVAC, electricity and electrical systems, fuel gas systems, 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 failed systems are identified; and the system's potential as a fire cause is recognized.

Requisite Knowledge

1. Describe different types of fire protection, detection, suppression, HVAC, electricity and electrical systems, fuel gas systems, and building compartmentation such as fire walls and fire doors
2. Identify 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. Describe types of failures

Requisite Skills

1. Determine the system's operation and its effect on the fire
2. Identify alterations to, and failure indicators of, building systems
3. Evaluate the impact of suppression efforts on building systems

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1A: Basic First Investigation (2022) <ul style="list-style-type: none">• Topic 3-5	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 8

2-9: Discriminating the Effects of Explosions

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.2.9

Job Performance Requirement

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.

Requisite Knowledge

1. Describe different types of explosions and their causes
2. Describe the characteristics of an explosion
3. Explain the difference between low- and high-order explosions

Requisite Skills

1. Identify explosive effects on glass, walls, foundations, and other building materials
2. Distinguish between low- and high-order explosion effects
3. Analyze damage to document the blast zone and origin

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1A: Basic First Investigation (2022) <ul style="list-style-type: none">• Topic 3-2	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 9

Section 3: Scene Documentation

3-1: Sketching and Diagramming the Scene

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.3.1

Job Performance Requirement

Sketch and 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.

Requisite Knowledge

1. Define commonly used symbols and legends that clarify the diagram
2. Describe types of evidence and patterns that need to be documented
3. Identify formats for diagramming the scene

Requisite Skills

1. Sketch the scene
2. Perform basic drafting skills
3. Locate evidence
4. Demonstrate observational skills

Content Modification

Block	Modification	Justification
JPR	Added "Sketch and".	Sketching and diagramming are distinct actions, and since both are included in 4.3.1, both should be included in the JPR.
RS2	Added "Perform".	NFPA did not provide a verb.
RS3	Changed "Recognize" to "Locate".	When you sketch and diagram, you are locating evidence, not recognizing it.
RS4	Added "Demonstrate".	NFPA did not provide a verb.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 2-2	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 10

3-2: Photographing the Scene

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.3.2
2. Office of the State Fire Marshal

Job Performance Requirement

Photographically document the scene, given standard tools and equipment, so that the scene is accurately depicted and the photographs support scene findings.

Requisite Knowledge

1. Discuss working knowledge of high-resolution camera and flash
2. Discuss types of media capture and collection
3. Describe the strengths and limitations of each type of media capture and collection
4. Describe the process of photographing the scene

Requisite Skills

1. Use a high-resolution camera, flash, and accessories

Content Modification

Block	Modification	Justification
RK2	Changed “of film, media, and flash available” to “of media capture and collection”.	This change reaches the same conclusion as the original while allowing for growth in the technology.
RK3	Added “type of media capture and collection”.	The original wording is no longer clear when the points are broken up into CTS formatting.
RK4	Added “Describe the process of photographing the scene”.	This is an important part of this topic.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 2-1	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 11

3-3: Constructing Investigative Notes

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.3.3
2. Office of the State Fire Marshal

Job Performance Requirement

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 and provide further documentation of the scene.

Requisite Knowledge

1. Describe the relationship between notes, diagrams, and photos
2. Describe how to reduce scene information into concise notes
3. Discuss using notes during report writing and legal proceedings

Requisite Skills

1. Demonstrate data-reduction skills
2. Demonstrate note-taking skills
3. Demonstrate observational and correlating skills

Content Modification

Block	Modification	Justification
JPR	Changed “so that the notes are accurate, provide further documentation of the scene, and represent complete documentation of the scene findings” to “so that the notes are accurate and provide further documentation of the scene”.	Investigations are ongoing events, so investigative notes are data collection, not a conclusion. Complete findings would be covered in final report.
RS1	Added “Demonstrate”.	NFPA did not provide a verb.
RS2	Added “Demonstrate”.	NFPA did not provide a verb.
RS3	Added “Demonstrate”.	NFPA did not provide a verb.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 2-3	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 12

Section 4: Evidence Collection and Preservation

4-1: Utilizing Proper Procedures for Managing Victims and Fatalities

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.4.1

Job Performance Requirement

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.

Requisite Knowledge

1. Describe types of evidence associated with fire victims and fatalities
2. Discuss evidence preservation methods

Requisite Skills

1. Demonstrate observational skills
2. Apply protocols to given situations

Content Modification

Block	Modification	Justification
RS1	Added "Demonstrate".	NFPA did not provide a verb.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 3-2	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 13

4-2: Working with Evidence

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.4.2

Job Performance Requirement

Locate, document, collect, label, package, and store evidence, given standard or special tools and equipment and evidence collection materials, so that evidence 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 are avoided and the chain of custody is established.

Requisite Knowledge

1. Describe types of evidence
2. Describe authority requirements
3. Describe the impact of removing evidentiary items on civil or criminal proceedings (exclusionary or fire-cause supportive evidence)
4. Explain types, capabilities, and limitations of standard and special tools and equipment used to locate evidence
5. Identify types of laboratory tests available
6. Identify packaging techniques and materials
7. Explain the impact of evidence collection on the investigation

Requisite Skills

1. Recognize different types of evidence
2. Determine whether evidence is critical to the investigation

Content Modification

Block	Modification	Justification
RK4	Added "and equipment".	Both tools and equipment are important here.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 3-1	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 14

4-3: Selecting Evidence for Analysis

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.4.3

Job Performance Requirement

Select evidence for analysis, given all information from the investigation, so the items for analysis support specific investigation needs.

Requisite Knowledge

1. Explain purposes for submitting items for analysis
2. Identify types of analytical services available
3. Describe capabilities and limitations of the services performing the analysis

Requisite Skills

1. Evaluate fire incident to determine forensic, engineering, or laboratory needs

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 3-3	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 15

4-4: Maintaining a Chain of Custody

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.4.4

Job Performance Requirement

Maintain a chain of custody, given standard investigative tools, marketing tools, and evidence tags or logs so that written documentation exists for each piece of evidence and evidence is secured.

Requisite Knowledge

1. Describe the rules of custody and transfer procedures
2. Identify types of evidence (e.g., physical evidence obtained at the scene, photos, and documents)
3. Describe methods of recording the chain of custody

Requisite Skills

1. Execute the chain of custody procedures
2. Accurately complete necessary documents

Content Modification

Block	Modification	Justification

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 3-4	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 16

4-5: Disposing of Evidence

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.4.5
2. Office of the State Fire Marshal

Job Performance Requirement

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.

Requisite Knowledge

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

Requisite Skills

1. Demonstrate documentation skills

Content Modification

Block	Modification	Justification
RK1	Added "Discuss judicial or statutory requirements for disposal".	The JPR includes this as part of the task standard so there needs to be teaching time dedicated to the concept.t.
RS1	Added "Demonstrate".	NFPA did not provide a verb.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 3-6	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 17

Section 5: Interview

5-1: Developing an Interview Plan

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.5.1

Job Performance Requirement

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.

Requisite Knowledge

1. Identify persons who can provide information that furthers the fire cause determination or the affixing of responsibility
2. Determine types of questions that are pertinent and efficient to ask of different information sources (first responders, neighbors, witnesses, suspects, and so forth)
3. Discuss pros and cons of interviews versus document gathering

Requisite Skills

1. Demonstrate planning skills
2. Develop focused questions for specific individuals
3. Evaluate existing file data to help develop questions and fill investigative gaps

Content Modification

Block	Modification	Justification
RS1	Added "Demonstrate".	NFPA did not provide a verb.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 3-7	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 18

5-2: Conducting an Interview

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.5.2

Job Performance Requirement

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.

Requisite Knowledge

1. Identify types of interviews
2. Describe legal requirements for interviews
3. Describe personal identifying information needed for proper documentation or follow-up
4. Describe documenting methods and tools
5. Describe types of verbal and nonverbal communications and their meaning

Requisite Skills

1. Adjust interviewing approach based on deductive reasoning
2. Apply appropriate legal requirements
3. Demonstrate active listening skills

Content Modification

Block	Modification	Justification
RK2	Added "Describe legal requirements for interviews".	Information obtained in interviews is only admissible in court if the interviews follow legal requirements. Need to include teaching on this point.
RK3	Added "identifying".	This is important for clarity.
RK5	Added "verbal and".	Both verbal and nonverbal communication are important in this topic.
RS	Removed "Interpret and analyze verbal and nonverbal communications".	The skill and nuance required to do this effectively exceeds the scope of this course.
RS1	Changed "strategies" to "approach".	"Strategy" implies interrogation.
RS3	Changed "Exhibit strong" to "Demonstrate active."	"Demonstrate" is more precise and "active" is a type of listening rather than a judgment of the listener's ability.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 3-8	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 19

Draft

5-3: Evaluating Interview Information

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.5.3

Job Performance Requirement

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.

Requisite Knowledge

1. Describe types of interviews
2. Describe how to evaluate interview information
3. Identify data correlation methods

Requisite Skills

1. Demonstrate data correlation skills
2. Evaluate source information (e.g., first responders and other witnesses)

Content Modification

Block	Modification	Justification
RK2	Changed “Describe report evaluation methods” to “Describe how to evaluate interview information”.	Change clarifies intent.
RS1	Added “Demonstrate”.	NFPA did not provide a verb.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 3-8 (RK1)• Topic 3-9 (RK2, RK3, RS1, RS2)	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 20

Section 6: Wildland Fire Investigation

6-1: Wildland Fire Investigator Roles and Responsibilities

Authority

1. Office of the State Fire Marshal

Job Performance Requirement

Describe the roles and responsibilities of a fire investigator, given an actual or simulated wildland fire incident, to safely identify, secure, and protect the areas of origin.

Requisite Knowledge

1. Identify importance of determining jurisdictional responsibility for investigation
2. Identify basic responsibilities of a fire investigator at a wildland scene
3. Discuss the systematic method of investigating a wildfire
4. Identify equipment specific to a wildland investigation
5. Identify Personal Protective Equipment (PPE)

Requisite Skills

1. None

Content Modification

Block	Modification	Justification
CTS	Added a new standard.	Wildland fires are prevalent in California, and all fire investigators working in the state need this skill.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 4-1	N/A	N/A

6-2: Documenting a Wildland Fire Scene

Authority

1. Office of the State Fire Marshal

Job Performance Requirement

Assist with documenting a wildland fire scene, given a simulated or actual wildland fire incident, to accurately represent the scene and identify evidence, pertinent contents, significant patterns, and area(s) or point(s) of origin.

Requisite Knowledge

1. Describe documenting a wildfire scene
2. Discuss outside influences on a wildland scene
3. Describe how to gather digital media
4. Identify and interview witnesses
5. Describe how to collect and documents on-scene weather readings

Requisite Skills

1. Demonstrate data-reduction skills
2. Demonstrate note-taking skills
3. Use cameras and accessories
4. Demonstrate observational and correlational skills

Content Modification

Block	Modification	Justification
CTS	Added a new standard.	Wildland fires are prevalent in California, and all fire investigators working in the state need this skill.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 4-2	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 21

6-3: Identifying Origin Areas

Authority

1. Office of the State Fire Marshal

Job Performance Requirement

Assist with identifying the origin areas, given an actual or simulated wildland fire incident, so that the opinion regarding origin is supported by the data, facts, and evidence.

Requisite Knowledge

1. Describe what influences wildland fire behavior
2. Describe parts of a wildland fire
3. Identify and describe fire direction indicators
4. Describe the relationship between individual indicators and overall fire pattern(s), which may reveal overall fire progression
5. Discuss indicator flags and their use

Requisite Skills

1. Demonstrate analytical and assimilation skills

Content Modification

Block	Modification	Justification
CTS	Added a new standard.	Wildland fires are prevalent in California, and all fire investigators working in the state need this skill.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 4-3	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 22

6-4: Identifying Wildland Fire Ignition Source and Cause

Authority

1. Office of the State Fire Marshal

Job Performance Requirement

Assist with identifying the ignition source and cause of a wildland fire, given an actual or simulated wildland fire scene, so that what brought the ignition source and materials together is determined.

Requisite Knowledge

1. Identify categories of fire causes and ignition sources

Requisite Skills

1. Employ search techniques

Content Modification

Block	Modification	Justification
CTS	Added a new standard.	Wildland fires are prevalent in California, and all fire investigators working in the state need this skill.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 4-4	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 23

6-5: Working with Wildland Fire Evidence

Authority

1. Office of the State Fire Marshal

Job Performance Requirement

Assist with locating, photographing, documenting, and protecting wildland fire evidence, given an actual or simulated wildland fire scene, so that evidence is properly identified, preserved, collected, packaged, and stored for use in testing, legal, or other proceedings and examinations.

Requisite Knowledge

1. Describe how evidence is located and identified at a wildland fire scene
2. Identify equipment and vehicle use evidence
3. Identify any evidence of firearms use
4. Identify fireworks evidence
5. Identify evidence related to power generation, transmission, or distribution
6. Identify incendiary evidence

Requisite Skills

1. Recognize different types of evidence
2. Determine whether evidence is critical to the investigation

Content Modification

Block	Modification	Justification
CTS	Added a new standard.	Wildland fires are prevalent in California, and all fire investigators working in the state need this skill.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 4-5	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 24

Section 7: Post-Incident Investigation

7-1: Gathering Reports and Records

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.6.1

Job Performance Requirement

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.

Requisite Knowledge

1. Describe types of reports and records needed that facilitate determining responsibility for the fire (e.g., police reports, fire reports, insurance policies, financial records, deeds, private investigator reports, outside photos, and videos)
2. Identify location of reports and records

Requisite Skills

1. Identify reports and documents necessary for the investigation
2. Implement chain of custody
3. Demonstrate organizational skills

Content Modification

Block	Modification	Justification
RK1	Added "and records".	Changed to match JPR.
RK2	Added "and records".	Changed to match JPR.
RS3	Added "Demonstrate".	NFPA did not provide a verb.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1C: Preparation for Legal Proceedings (2022) <ul style="list-style-type: none">• Topic 2-1	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 28

7-2: Evaluating the Investigative File

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.6.2

Job Performance Requirement

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.

Requisite Knowledge

1. Describe file assessment and/or evaluation methods, including accurate documentation practices
2. Identify requisite investigative elements

Requisite Skills

1. Demonstrate information assessment skills
2. Demonstrate correlation skills
3. Demonstrate organizational skills

Content Modification

Block	Modification	Justification
RS1	Added "Demonstrate".	NFPA did not provide a verb.
RS2	Added "Demonstrate".	NFPA did not provide a verb.
RS3	Added "Demonstrate".	NFPA did not provide a verb.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1C: Preparation for Legal Proceedings (2022) <ul style="list-style-type: none">• Topic 2-2	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 29

7-3: Coordinating Expert Resources

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.6.3

Job Performance Requirement

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.

Requisite Knowledge

1. Describe how to assess one's own expertise
2. Identify qualifications to be called for expert testimony
3. Identify types of expert resources (e.g., forensic, CPA, polygraph, financial, human behavior disorders, and engineering)
4. Describe methods to identify expert resources

Requisite Skills

1. Apply expert resources to further the investigation
2. Network with other investigators to identify expert resources
3. Question experts relative to their qualifications
4. Develop a utilization plan for use of expert resources

Content Modification

Block	Modification	Justification
RS2	Added "resources".	Adding this keeps it consistent with the wording in the rest of the topic.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1C: Preparation for Legal Proceedings (2022) <ul style="list-style-type: none">• Topic 2-3	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 30

7-4: Establishing Evidence as to Means, Motive, and Opportunity

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.6.4

Job Performance Requirement

Establish evidence as to means, motive, and opportunity, given an incendiary fire, so that the evidence is supported by documentation and meets the evidentiary requirements of the jurisdiction.

Requisite Knowledge

1. Identify means common to incendiary fires
2. Discuss types of motives common to incendiary fires
3. Identify methods used to discovery opportunity
4. Discuss human behavioral patterns relative to fire-setting

Requisite Skills

1. Analyze finances and other records
2. Perform an interview
3. Interpret and analyze fire scene information and evidence for relationship to means, motive, and opportunity

Content Modification

Block	Modification	Justification
JPR	Changed “motive and/or opportunity” to “means, motives, and opportunity”.	“Means” is an important part of this discussion.
RK1	Added new RK item.	This change matches the revised JPR.
RS1	Replaced “Financial analysis, records gathering and analysis” with “Analyze finances and other records”.	The documents have already been gathered and this is cleaner wording.
RS2	Added “Perform”.	NFPA did not provide a verb.
RS3	Changed “motive and/or opportunity” to “means, motives, and opportunity”.	Changed to match JPR.

Cross Reference

Course Plan	Skill Sheet	Task Book
This is covered by CFITrainer. It is not in an SFT course plan.	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 31

7-5: Formulating an Opinion

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.6.5

Job Performance Requirement

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, scientific references, and evidence.

Requisite Knowledge

1. Describe analytical methods and procedures (e.g., hypothesis development and testing, systems analysis, time lines, link analysis, fault tree analysis, and data reduction matrixing)

Requisite Skills

1. Demonstrate analytical and assimilation skills

Content Modification

Block	Modification	Justification
RS1	Added "Demonstrate".	NFPA did not provide a verb.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1C: Preparation for Legal Proceedings (2022) <ul style="list-style-type: none">• Topic 2-4	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 32

Section 8: Presentations

8-1: Preparing a Written Report

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.7.1

Job Performance Requirement

Prepare a written report, given investigative findings, so that the report accurately reflects the facts, data, and scientific principles on which the investigator relied; clearly identifies and expresses the investigator's opinions and conclusions; and contains the reasoning by which each opinion or conclusion was reached in order to meet the requirements of the intended audience(s).

Requisite Knowledge

1. Describe elements of writing
2. Describe typical components of a written report
3. Identify types of audiences and their respective needs or requirements

Requisite Skills

1. Demonstrate writing skills
2. Analyze information
3. Determine audiences and their respective needs or requirements

Content Modification

Block	Modification	Justification
RS1	Added "Demonstrate".	NFPA didn't provide a verb.
RS3	Changed "readers' needs or requirements" to "audiences and their respective needs or requirements".	This change matches the language of the rest of the topic.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) <ul style="list-style-type: none">• Topic 3-5	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 33

8-2: Expressing Investigative Findings

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.7.2

Job Performance Requirement

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.

Requisite Knowledge

1. Identify types of investigative findings
2. Identify informational needs of various types of audiences
3. Describe the impact of releasing information

Requisite Skills

1. Demonstrate communication skills
2. Determine audience needs
3. Correlate findings

Content Modification

Block	Modification	Justification
RS1	Added "Demonstrate".	NFPA did not provide a verb.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1C: Preparation for Legal Proceedings (2022) <ul style="list-style-type: none">• Topic 2-5	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 34

8-3: Testifying During Legal Proceedings

Authority

1. NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)
 - Paragraph 4.7.3

Job Performance Requirement

Testify during legal proceedings, given investigative findings, so that the testimony accurately reflects the facts, data, and scientific principles on which the investigator relied; clearly identifies and expresses the investigator's opinions and conclusions; and contains the reasoning by which each opinion or conclusion was reached.

Requisite Knowledge

1. Identify types of findings within the investigative file
2. Describe types of legal proceedings
3. Describe professional demeanor requirements

Requisite Skills

1. Demonstrate communication and listening skills
2. Differentiate facts from opinion
3. Determine accepted procedures, practices, and etiquette during legal proceedings

Content Modification

Block	Modification	Justification
RK1	Added "within the investigative file".	Added to narrow scope of "of findings".
RK4	Removed "an understanding of".	Adjusted for grammar.

Cross Reference

Course Plan	Skill Sheet	Task Book
Fire Investigator 1C: Preparation for Legal Proceedings (2022) <ul style="list-style-type: none">• Topic 2-6	N/A	Fire Investigator (2022) Certification Task Book <ul style="list-style-type: none">• JPR 35



Basic Fire Investigation (2022)

Course Plan

Course Details

Certification:	Fire Investigator
CTS Guide:	Fire Investigator (2022)
Description:	This course provides the skills and knowledge needed for the Fire Investigator to safely, effectively, and competently secure the fire ground, conduct an exterior and interior survey, analyze and interpret fire patterns, discriminate the effects of explosions, examine and remove fire debris, reconstruct the area of origin, and inspect building system performance.
Designed For:	Personnel preparing to pursue Fire Investigator certification or anyone who performs the duties of a Fire Investigator within their agency.
Prerequisites:	Basic Electricity (CFITrainer.net) Ethics and the Fire Investigator (CFITrainer.net)
Standard:	Complete all activities and formative tests. Complete all summative tests with a minimum score of 80%.
Hours (Total):	40 hours (26.5 lecture / 13.5 application / 2.5 testing)
Maximum Class Size:	30
Instructor Level:	SFT Fire Investigator Registered Instructor
Instructor/Student Ratio:	Lecture: 1:30 Application: 1:15
Restrictions:	See Facilities, Equipment, and Personnel
SFT Designation:	CFSTES

Table of Contents

Course Details	1
Required Resources	3
Instructor Resources	3
Online Instructor Resources	3
Student Resources	3
Facilities, Equipment, and Personnel.....	4
Time Table.....	5
Time Table Key.....	6
Unit 1: Introduction	7
Topic 1-1: Orientation and Administration.....	7
Topic 1-2: Fire Investigator Certification Process.....	8
Topic 1-3: Foundational Knowledge and Skills for a Fire Investigator	10
Unit 2: Scene Examination	12
Topic 2-1: Securing the Fire Ground.....	12
Topic 2-2: Conducting an Exterior Survey.....	13
Topic 2-3: Conducting an Interior Survey.....	14
Unit 3: Origin and Cause	15
Topic 3-1: Interpreting and Analyzing Fire Effects and Patterns.....	15
Topic 3-2: Discriminating the Effects of Explosions.....	16
Topic 3-3: Examining and Removing Fire Debris	17
Topic 3-4: Reconstructing Potential Areas of Origin	18
Topic 3-5: Inspecting and Analyzing Building System Performance.....	19
How to Read a Course Plan.....	21

Required Resources

Instructor Resources

To teach this course, instructors need:

- One of the following textbooks and accompanying tool kits and test banks:
 - *Fire Investigator: Principles and Practice* (Jones and Bartlett, 6th edition, 2022)
 - or
 - *Fire Investigator* (IFSTA, 3rd edition, 2021)
- NFPA 470: Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders (current edition)
- NFPA 921: Guide for Fire and Explosion Investigations (current edition, Safety chapter)
- NFPA 1033: Standard for Professional Qualifications for Fire Investigator (current edition)
- NFPA 1403: Standard on Live Fire Training Evolutions (current edition)
- Fire Investigator Health and Safety Best Practices (IAAI, current edition)
- Applicable local, state, or federal occupational safety and health regulations
- Fire scene scenarios
- Personal protective equipment
 - Structural firefighter turnout gear, including bunker pants and coat, helmet with chin strap, particulate-blocking hood, boots (steel toe, puncture-resistant sole), and gloves
 - Work duty coveralls or similar (preferably disposable with hood) that completely cover the arms and legs

Online Instructor Resources

The following instructor resources are available online at

<https://osfm.fire.ca.gov/what-we-do/state-fire-training/professional-certifications>

- Fire Investigator 1A Activities (2022)

Student Resources

To participate in this course, students need:

- Required textbook chosen by instructor
- Access to a computer and printer
- A device capable of taking photographs (e.g., camera, tablet, cell phone)
- An electronic device for developing and delivering a presentation
- Personal protective equipment
 - Structural firefighter turnout gear, including bunker pants and coat, helmet with chin strap, particulate-blocking hood, boots (steel toe, puncture-resistant sole), and gloves
 - Work duty coveralls or similar (preferably disposable with hood) that completely cover the arms and legs

Facilities, Equipment, and Personnel

Facilities

The following facilities are required to deliver this course:

- Standard learning environment or facility, which may include:
 - Writing board or paper easel chart
 - Markers, erasers
 - Amplification devices
 - Projector and screen
 - Laptop or tablet with presentation or other viewing software
 - Internet access with appropriate broadband capabilities
 - Standard learning environment or facility

Equipment

- Marking devices, tools, and equipment used by a fire investigator
- Evidence collection materials
- A device capable of taking photographs (e.g., camera, tablet, cell phone)
- Graph paper and note pad
- Air Quality Management District permit (if required)
- Burn cubicles sufficient to accommodate the 1:15 instructor/student ratio
- Fire suppression equipment
- Multi-gas area monitoring equipment (to monitor VOCs, oxygen enrichment/deficiency, carbon monoxide, formaldehyde, and hydrogen sulfide)
 - One per burn cubicle recommended

Personnel

- Fire suppression personnel to manage live fire burn cubicles in accordance with NFPA 1403 and AHJ policy and procedures
- All instructors counted toward student ratios, including application components, must be SFT Registered Fire Investigator 1A Instructors

Time Table

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.50	0.0	
Topic 1-2: Fire Investigator Certification Process	0.25	0.0	
Topic 1-3: Foundational Knowledge and Skills for a Fire Investigator	2.0	0.0	
Unit 1 Totals	3.0	0.0	3.0
Unit 2: Scene Examination			
Topic 2-1: Securing the Fire Ground	0.5	0.0	
Topic 2-2: Conducting an Exterior Survey	3.5	0.5	
Topic 2-3: Conducting an Interior Survey	3.5	0.5	
Unit 2 Totals	7.5	1.0	8.5
Unit 3: Origin and Cause			
Topic 3-1: Interpreting and Analyzing Fire Effects and Patterns	8.0	2.0	
Topic 3-2: Discriminating the Effects of Explosions	2.0	0.0	
Topic 3-3: Examining and Removing Fire Debris	2.0	*	
Topic 3-4: Reconstructing Potential Areas of Origin	2.0	8.0	
Topic 3-5: Inspecting and Analyzing Building System Performance	2.0	0.0	
Unit 3 Totals	16.0	10.0	26.0
Formative Assessments			
Determined by AHJ or educational institution	0.0	0.0	0.0
Summative Assessment			
Determined by AHJ or educational institution	0.0	2.5	2.5
Course Totals	26.5	13.5	40.0

* The 8 hours identified for application in Topic 3-4 covers both Topic 3-3 and 3-4.

Time Table Key

1. The Time Table documents the amount of time estimated to deliver the content included in the course plan.
2. Time is documented using the quarter system: 15 min. = .25 / 30 min. = .50 / 45 min. = .75 / 60 min. = 1.0.
3. The Course Totals do not reflect time for lunch (1 hour) or breaks (10 minutes per each 50 minutes of instruction or assessment). It is the instructor's responsibility to add this time based on the course delivery schedule.
4. Application (activities, skills exercises, and formative testing) time will vary depending on the number of students enrolled. The Application time documented is based on the maximum class size identified in the Course Details section.
5. Summative Assessments are determined and scheduled by the authority having jurisdiction. These are not the written or psychomotor State Fire Training certification exams. These are in-class assessments to evaluate student progress and calculate course grades.

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, skills exercises, 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
 - Activities
 - Required student resources
 - Class participation requirements

Discussion Questions

1. Determined by instructor

Application

1. Determined by 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 levels of certification in the Fire Investigator certification track
 - Not applicable
2. Identify the prerequisites for Fire Investigator certification
 - Not applicable
3. Identify the course work required for Fire Investigator certification
 - Fire Investigator 1A (2017 **or** 2022) (SFT)
 - Fire Investigator 1B: Interview, Evidence, and Documentation, and Wildland (2022) **or**
Fire Investigator 1B: Evidence and Documentation (2017) **and** FI-110: Wildland Fire Observations and Origin Scene Protection for First Responders (NWCG) **and** Fundamentals of Interviewing (CFTITrainer.net) **and** Introduction to Evidence (CFTITrainer.net) **or**
Fire Investigator 1B: Evidence and Documentation (2017) **and** Wildland Fires Investigation (CFITrainer.net) **and** Fundamentals of Interviewing (CFTITrainer.net) **and** Introduction to Evidence (CFTITrainer.net)
 - Fire Investigator 1C (2017 **or** 2002) (SFT)
 - PC832: Arrest (POST #80102)
 - Must be completed within two years of applying for certification unless candidate is employed as a peace officer
4. Identify the exams requirements for Fire Investigator certification
 - Not applicable
5. Identify the task book requirements for Fire Investigator certification
 - Fire Investigator Certification Task Book (2022)
6. Identify the experience requirements for Fire Investigator certification
 - A minimum of two (2) years' full-time paid experience with a recognized California fire or law enforcement agency
 - Investigate 25 fires as the lead investigator (verified in chief's, sheriff's, or equivalent's letter)
7. Identify the position requirements for Fire Investigator certification
 - None
8. 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, Police Chief, Sheriff, or equivalent or authorized representative verify task book completion via signature
 - Must be employed by a California fire or law enforcement agency in the position prior to submitting completed task book to State Fire Training
9. Describe the certification testing process
- Not applicable
 - All formative and summative testing is completed in individual courses

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Draft

Topic 1-3: Foundational Knowledge and Skills for a Fire Investigator

Terminal Learning Objective

At the end of this topic a student, given NFPA 1033 and AHJ policies and procedures, will be able to describe the roles and responsibilities of a Fire Investigator in accordance with NFPA standards.

Enabling Learning Objectives

1. Describe the roles and responsibilities of a Fire Investigator
 - Apply all elements of the scientific method as the operating analytical process throughout the investigation and for determining both origin and cause
 - Recognize need
 - Define problem
 - Collect data
 - Analyze data
 - Develop hypothesis
 - Inductive reasoning
 - Test hypothesis
 - Deductive reasoning
 - Select final hypothesis
 - Conduct a scene site safety assessment
 - Maintain necessary liaisons
 - Adhere to all applicable legal and regulatory requirements
 - Understand AHJ organizational and operational protocols
 - Remain current in subjects related to fire investigations, including:
 - Fire science
 - Fire chemistry
 - Thermodynamics
 - Fire dynamics
 - Explosion dynamics
 - Fire investigation
 - Fire analysis
 - Fire investigation methodology
 - Fire investigation technology
 - Evidence documentation, collection, and preservation
 - Failure analysis and analytical tools
 - Fire scene safety
 - Hazard recognition, evaluation, and basic mitigation procedures
 - Hazardous materials
 - Safety regulations
 - Building systems
 - Types of construction
 - Fire protection systems
 - Electricity and electrical systems
 - Fuel gas systems

- Scene examination
 - Inspect, evaluate, and analyze fire scene or evidence of scene
 - Conduct a comprehensive review of documentation and media generated before, during, or after the incident if the scene is no longer available
 - Determine area or point of origin, source of ignition, material(s) ignited, and action or activity that brought ignition source and materials together
 - Assess subsequent fire progression, containment, and extinguishment
- Scene documentation
 - Sketch, photograph, and take field notes to use to document scene findings or prepare a written report
- Evidence collection and preservation
 - Use proper physical and legal procedures to identify, document, collect, and preserve evidence
- Interviewing
 - Obtain information regarding overall fire investigation from others
- Post-Incident investigation
 - Investigate all factors associated with fire incident
- Presentations
 - Present findings to individuals not involved in actual investigations

Discussion Questions

1. How do you apply the scientific method to both origin and cause?
2. How does a fire investigator work within the incident management system?
3. What forms of media are available to a fire investigator?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide: CTS 1-1

Unit 2: Scene Examination

Topic 2-1: Securing the Fire Ground

Terminal Learning Objective

At the end of this topic a student, given marking devices, sufficient personnel, and special tools and equipment, will be able to secure and survey 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
 - Exterior
 - Interior
2. Describe how to use marking devices, tools, and equipment for securing the scene
 - Establishing perimeters
 - Coordinating with other stakeholders, as needed
3. Describe the importance of establishing and maintaining fire scene security
4. Identify types of physical evidence
5. Describe evidence preservation
6. Describe issues relating to spoliation

Discussion Questions

1. What are some common hazards at a fire scene?
2. How is the perimeter of an incident determined?
3. What are some common ways to secure a fire scene?
4. What are ways of minimizing scene destruction?
5. How many people do you need to secure and survey a scene?

Application

1. Determined by instructor

Instructor Notes

1. Reference aerial images of fire scenes

CTS Guide Reference: CTS 2-1

Topic 2-2: Conducting an Exterior Survey

Terminal Learning Objective

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

Enabling Learning Objectives

1. Identify types of building construction
 - Single-family homes
 - Multi-family dwellings
 - Commercial structures
 - High-rises
2. Identify effects of fire on construction materials
3. Identify ventilation openings
4. Identify unique components of urban vs. rural environments
5. Identify potential exterior ignition sources
6. Identify types of evidence commonly found in the perimeter
7. Discuss potential media sources and their importance
8. Identify evidence preservation methods
9. Identify effects of fire suppression
10. Identify fire behavior and spread
11. Identify, interpret, and analyze fire effects and patterns
12. Identify dangers of hazardous materials
13. Identify weather conditions at the time of the fire
14. Assess fire ground
15. Evaluate the damage from and effects of the fire

Discussion Questions

1. What details might an exterior survey uncover?
2. How could weather affect exterior burn patterns?
3. What are potential media sources, and how might a fire investigator recover them?
4. What are types of ventilation openings?

Application

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

Instructor Notes

1. None

CTS Guide Reference: CTS 2-2

Topic 2-3: Conducting an Interior Survey

Terminal Learning Objective

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

Enabling Learning Objectives

1. Assess structural conditions
2. Identify types of interior finishes
3. Identify fire behavior and spread
4. Identify evidence preservation methods
5. Identify fire effects and patterns
6. Document potential interior ignition sources
7. Recognize effects of building contents on fire growth
8. Identify relationship of building contents to the overall investigation
9. Identify the impact of fire suppression efforts on fire dynamics
10. Identify 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 a structure?
3. Why is a lack of building contents significant?
4. Why is it important to know the position of contents prior to the fire?
5. Why is it important to understand the condition of windows and doors at the time of the fire?
6. What are some questions to ask suppression personnel?

Application

1. Display a variety of pictures and ask students to:
 - Identify the types of interior finishes and describe fire effects on them
 - Identify potential interior ignition sources
 - Describe fire behavior and spread
 - Discuss the effects of building contents on fire dynamics
 - Evaluate areas to determine the presence and/or absence of contents
2. Final Activity: Conducting an Origin and Cause Fire Investigation

Instructor Notes

1. None

CTS Guide Reference: CTS 2-3

Unit 3: Origin and Cause

Topic 3-1: Interpreting and Analyzing Fire Effects and Patterns

Terminal Learning Objective

At the end of this topic a student, given standard tools and equipment and structural or content remains, will be able to interpret and analyze fire effect(s) and pattern(s) to determine fire dynamics, development, and involved materials, using sequential pattern analysis; analyze the methods and effects of suppression and ventilation, recognize and interpret fire patterns to determine hypothetical areas of origin, and eliminate false or refuted hypothetical areas of origin; and test all fire effects and patterns against data to correctly identify the area(s) of origin.

Enabling Learning Objectives

1. Describe fire dynamics, including stages of fire development
2. Describe fire dynamics, including compartment fire development
3. Describe fire development and spread based on fire chemistry
4. Describe methods of heat transfer
5. Describe fire effects
6. Describe fire patterns
7. Describe fire pattern generation
 - Plume
 - Hot gas layer
 - Ventilation
 - Suppression
 - Full room involvement
8. Analyze variations of fire patterns on different materials with consideration given to HRR, form, ignitability and burning characteristics of the fuels involved, and the effects of ventilation
9. Describe building construction
10. Describe fuel gas systems
11. Describe electricity and electrical systems

Discussion Questions

1. What are some examples of fire patterns?
2. What are some examples of fire effects?
3. What are the stages of compartment fire development?
4. How are hypothetical areas of origin identified and eliminated?

Application

1. Activity 3-1: Interpreting Fire Dynamics

Instructor Notes

1. None

CTS Guide Reference: CTS 2-4, 2-5

Topic 3-2: Discriminating the Effects of Explosions

Terminal Learning Objective

At the end of this topic a student, given standard equipment and tools, 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 different types of explosions and their causes
2. Describe characteristics of an explosion
3. Explain the difference between low-order and high-order damage
 - Deflagration
 - Detonation
4. Identify explosive effects on glass, walls, foundations, and other building materials
5. Analyze damage to document blast zone and seat
6. Describe how to establish the perimeter at a post-blast incident

Discussion Questions

1. What is the difference between a positive and negative blast pressure?
2. At a fire scene, what can cause an explosion?
3. How far out would a perimeter be at an explosion scene?
4. How might an explosion scene differ from a fire scene?

Application

1. Determined by instructor

Instructor Notes

1. Clarify the differences in the applications of the terms “low-order” and “high-order” in fire investigation and explosives communities.
2. For assistance with this topic, reference Explosion Dynamics (CFITrainer.net).

CTS Guide Reference: CTS 2-9

Topic 3-3: Examining and Removing Fire Debris

Terminal Learning Objective

At the end of this topic a student, given standard or, if necessary, specialized tools, and equipment, will be able to examine and remove fire debris to discover and analyze fire patterns and fire effects concealed by debris, check all debris within the potential area(s) of origin for fire cause evidence, identify potential ignition source(s), and preserve evidence without investigator-inflicted damage or contamination.

Enabling Learning Objectives

1. Describe delayering techniques for debris removal
 - Gridding
 - Sifting
2. Discuss the use of tools and equipment during the debris search
 - Common
 - Specialized
3. Demonstrate and document search techniques that further the discovery of fire cause evidence and ignition sources
4. Describe the ignitability of various fuels
5. Describe characteristics of ignition sources
6. Describe ignition sequence
7. Identify types of fire cause evidence found
8. Describe evidence spoliation and techniques to avoid it
9. Describe evidence collection, preservation methods, and documentation

Discussion Questions

1. What should a fire investigator be looking for when removing fire debris?
2. What are the characteristics of an ignition source?
3. What is the purpose of removing debris in layers?

Application

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

Instructor Notes

1. None

CTS Guide Reference: CTS 2-6

Topic 3-4: Reconstructing Potential Areas of Origin

Terminal Learning Objective

At the end of this topic a student, given standard and, if needed, specialized tools and equipment, and sufficient personnel, will be able to reconstruct potential areas of origin to identify and correlate all protected areas and fire patterns to contents or structural remains, return items potentially critical to cause determination to their pre-fire location as a means of hypothesis testing to discover the area(s) or point(s) of origin.

Enabling Learning Objectives

1. Describe the importance and uses of reconstruction
2. Describe the reconstruction process
3. Examine the fire effects to determine pre-fire location
 - Protected areas
4. Identify potential area(s) of origin
5. Return materials to their original position using protected areas and fire patterns

Discussion Questions

1. What are different techniques for reconstructing a fire scene?
2. How do you determine the location of the contents?
3. How do you determine a potential area of origin?

Application

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

Instructor Notes

1. None

CTS Guide Reference: CTS 2-7

Topic 3-5: Inspecting and Analyzing Building System Performance

Terminal Learning Objective

At the end of this topic a student, given standard and special tools, and equipment, will be able to inspect the performance of building systems 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 building systems
 - Detection
 - Suppression
 - HVAC
 - Electricity and electrical
 - Fuel gas
 - Compartmentation
2. Describe reporting features
 - Inspection, Testing, and Maintenance (ITM)
 - Activation history of the monitoring systems
3. Identify the types of expert resources for building systems
4. Describe the impact of fire on various systems
5. Determine the system's operation and its effect on the fire
6. Identify alterations to, and failure indicators of, building systems
 - Fire doors propped open
 - Sprinkler systems shut down
 - Detection systems disabled
 - Compartmentation or fire doors that do not confine a fire
 - Sprinkler systems that do not control a fire
 - Smoke control systems that do not function correctly
 - HVAC systems that do not perform adequately
 - Alarm bells that fail to provide prompt notification
7. Evaluate the impact of suppression efforts on building systems

Discussion Questions

1. What are some fire control structures and systems?
2. How can a fire investigator tell if a building system was functioning properly at the time of the event?
3. How does a fire investigator tell if the fire protection system is appropriate for the building's current use?
4. In what ways could an HVAC affect fire patterns?

Application

1. Determined by instructor

Instructor Notes

1. It is always important to consider the system's design and intention. Investigators should keep in mind the possibility that systems might not have failed to function, but rather, might have been overcome by the fire development.

CTS Guide Reference: CTS 2-8

Draft

How to Read a Course Plan

A course plan identifies the details, logistics, resources, and training and education content for an individual course. Whenever possible, course content is directly tied to a national or state standard. SFT uses the course plan as the training and education standard for an individual course. Individuals at fire agencies, academies, and community colleges use course plans to obtain their institution's consent to offer courses and provide credit for their completion. Instructors use course plans to develop syllabi and lesson plans for course delivery.

Course Details

The Course Details segment identifies the logistical information required for planning, scheduling, and delivering a course.

Required Resources

The Required Resources segment identifies the resources, equipment, facilities, and personnel required to deliver the course.

Unit

Each Unit represents a collection of aligned topics. Unit 1 is the same for all SFT courses. An instructor is not required to repeat Unit 1 when teaching multiple courses within a single instructional period or academy.

Topics

Each Topic documents a single Terminal Learning Objective and the instructional activities that support it.

Terminal Learning Objective

A Terminal Learning Objective (TLO) states the instructor's expectations of student performance at the end of a specific lesson or unit. Each TLO includes a task (what the student must be able to do), a condition (the setting and supplies needed), and a standard (how well or to whose specifications the task must be performed). TLOs target the performance required when students are evaluated, not what they will do as part of the course.

Enabling Learning Objectives

The Enabling Learning Objectives (ELO) specify a detailed sequence of student activities that make up the instructional content of a lesson plan. ELOs cover the cognitive, affective, and psychomotor skills students must master to complete the TLO.

Discussion Questions

The Discussion Questions are designed to guide students into a topic or to enhance their understanding of a topic. Instructors may add to or adjust the questions to suit their students.

Application

The Application segment documents experiences that enable students to apply lecture content through cognitive and psychomotor activities, skills exercises, and formative testing. Application experiences included in the course plan are required. Instructors may add additional application experiences to suit their student population if time permits.

Instructor Notes

The Instructor Notes segment documents suggestions and resources to enhance an instructor’s ability to teach a specific topic.

CTS Guide Reference

The CTS Guide Reference segment documents the standard(s) from the corresponding Certification Training Standard Guide upon which each topic within the course is based. This segment is eliminated if the course is not based on a standard.

Skill Sheet

The Skill Sheet segment documents the skill sheet that tests the content contained within the topic. This segment is eliminated if the course does not have skill sheets.

Draft

Interpreting Fire Dynamics

Format: Groups or all students

Time: 2 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 cubicles sufficient to accommodate the 1:15 instructor/student ratio
 - Wood or steel frame (minimum 8'x8') with 8' ceiling
 - Window(s) and door (optional)
 - Drywall interior with optional interior finishes
 - Floor covering
 - Furniture and/or other combustibles
 - Smoke alarm (optional)
- Fire suppression equipment
- Multi-gas area monitoring equipment (to monitor VOCs, oxygen enrichment/deficiency, carbon monoxide, formaldehyde, and hydrogen sulfide)
 - One per burn cubicle recommended
- Fire suppression personnel to manage live fire burn cubicles in accordance with NFPA 1403 and AHJ policy and procedure
- Personal protective equipment

Instructions

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

Instructor Notes

1. State Fire Training requires that personal conduct all live fire activity in compliance with NFPA 1403: Standard on Live Fire Training Evolutions (current edition) in the IAP.
2. Record the fire development for review after the investigation.

Activity Content

After completion of the burn, answer the following questions. 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 the air entrainment process affect plume development?
7. Did this fire flashover or rollover? Explain your reasoning.

Conducting an Origin and Cause Fire Investigation

Format: Group

Time: 8 hours

Description

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

Materials

- Burned cubicle (no more than 15 students per cubicle) and/or burned structure
- Tools and equipment
- Personal protective equipment
- Evidence collection equipment
- Device capable of taking photographs
- Graph paper and notepad
- Pens or pencils
- Electronic device for developing and delivering a presentation

Instructions

1. Select a group leader.
2. Conduct an exterior scene survey.
 - Recognize, analyze, and interpret fire patterns
 - Sketch and photograph the scene
 - Identify, protect, and photograph 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, and photograph evidence
4. Examine and remove debris.
 - Evaluate the area to begin processing/excavating
 - Use the delayering technique/sifting of debris
 - Identify, protect, and photograph evidence
5. Reconstruct the area of origin.
 - Examine the fire effects on the materials
 - Return materials to their original position using protected areas and fire patterns
 - Photograph the scene after reconstruction
6. Present your findings (team leader).

Instructor Notes

1. Allow 1 hour for the groups to prepare their presentation.
2. Allow a minimum of 30 minutes for each group presentation.

Draft



Evidence, Documentation, Interviews, and Wildland (2022)

Course Plan

Course Details

Certification:	Fire Investigator
CTS Guide:	Fire Investigator (2022)
Description:	This course provides the skills and knowledge needed for the Fire Investigator to safely, effectively, and competently complete scene documentation and evidence collection and preservation for both structure and wildland fires. Topics include photographing, sketching, and diagramming the scene; working with evidence; identifying origin areas and cause; managing victims and fatalities; establishing and maintaining a chain of custody; planning, conducting, and evaluating interviews; and preparing written reports.
Designed For:	Personnel preparing to pursue Fire Investigator certification or anyone who performs the duties of a Fire Investigator within their agency.
Prerequisites:	Fire Investigation 1A: Basic Fire Investigation (2017 or 2022) Fundamentals of Interviewing (CFITrainer.net) Introduction to Evidence (CFITrainer.net) Wildland Fires Investigation (CFITrainer.net)
Standard:	Complete all activities and formative tests. Complete all summative tests with a minimum score of 80%.
Hours (Total):	40 hours (26 lecture / 14 application / 2 testing)
Maximum Class Size:	30
Instructor Level:	SFT Fire Investigator 1B Registered Instructor
Instructor/Student Ratio:	Lecture 1:30
Restrictions:	See Facilities, Equipment, and Personnel
SFT Designation:	CFSTES

Table of Contents

Course Details	1
Required Resources	3
Instructor Resources	3
Online Instructor Resources	3
Student Resources	4
Facilities, Equipment, and Personnel.....	4
Time Table.....	5
Time Table Key.....	6
Unit 1: Introduction	7
Topic 1-1: Orientation and Administration.....	7
Topic 1-2: Fire Investigator Certification Process.....	8
Unit 2: Scene Documentation.....	10
Topic 2-1: Photographing the Scene.....	10
Topic 2-2: Sketching and Diagramming the Scene	11
Topic 2-3: Constructing Investigative Notes.....	12
Unit 3: Evidence Collection and Preservation	13
Topic 3-1: Working with Evidence	13
Topic 3-2: Managing Victims and Fatalities.....	15
Topic 3-3: Selecting Evidence for Analysis.....	16
Topic 3-4: Maintaining a Chain of Custody.....	17
Topic 3-5: Preparing a Written Report	18
Topic 3-6: Disposing of Evidence	20
Topic 3-7: Developing an Interview Plan	21
Topic 3-8: Conducting an Interview.....	22
Topic 3-9: Evaluating Interview Information	23
Unit 4: Wildland Fire Investigation	24
Topic 4-1: Wildland Fire Investigator Roles and Responsibilities.....	24
Topic 4-2: Documenting a Wildland Fire Scene.....	26
Topic 4-3: Identifying Origin Areas	28
Topic 4-4: Identifying Wildland Fire Ignition Source and Cause.....	31
Topic 4-5: Working with Wildland Fire Evidence.....	32
How to Read a Course Plan.....	33

Required Resources

Instructor Resources

To teach this course, instructors need:

- One of the following textbooks and accompanying tool kits and test banks:
 - *Fire Investigator Principles and Practice* (Jones and Bartlett, 6th edition, 2022)
or
 - *Fire Investigator* (IFSTA, 3rd edition, 2021)
- NFPA 921: Guide for Fire and Explosion Investigations (current edition)
- NFPA 1033: Standard for Professional Qualifications for Fire Investigator (current edition)
- ASTM E620 – *Standard Practice for Reporting Opinions of Scientific or Technical Experts* (contents of a written report and evaluation methods)
- ASTM E678 – *Standard Practice for Evaluation of Scientific or Technical Data*. (contents of a written report and evaluation methods)
- ASTM E860 – *Standard Practice for Examining and Preparing Items that Are or May Become Involved in Criminal or Civil Litigation* (evidence collection methods)
- ASTM E1188 – *Standard Practice for Collection and Preservation of Information and Physical Items by a Technical Investigator*. (evidence collection methods)
- Fire Scene Evidence Collection Guide (IAAI, current edition)
- *Law Enforcement Evidence and Property Management Guide* (POST, 4th edition, 2022)
- *Guide to Wildland Fire Origin and Cause Determination* (NWCG)
- Physical Evidence Bulletins (Office of the Attorney General)
- Public Resource Code; Health and Safety Code; California Code of Regulations, Title 19
- Fire scene scenarios and associated documents (e.g., pre-fire 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 files
- Personal protective equipment (including gloves)

Online Instructor Resources

The following instructor resources are available online at

<https://osfm.fire.ca.gov/what-we-do/state-fire-training/professional-certifications>

- Fire Investigator 1B Activities

Student Resources

To participate in this course, students need:

- Required textbook chosen by the instructor
- Access to a computer and printer
- Device capable of taking photographs (i.e., tablet or cell phone)
- Tablet or laptop computer
- Personal protective equipment (including gloves)

Facilities, Equipment, and Personnel

Facilities

The following facilities are required to deliver this course:

- Standard learning environment or facility, which may include:
 - Writing board or paper easel chart
 - Markers, erasers
 - Amplification devices
 - Projector and screen
 - Laptop or tablet with presentation or other viewing software
 - Internet access with appropriate broadband capabilities
 - Tools and equipment used by a fire investigator

Equipment

- Tools and equipment used by a fire investigator
- Evidence samples, collection materials, and logs

Personnel

- All instructors counted toward student ratios, including application components, must be SFT Registered Fire Investigator 1B Instructors

Time Table

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.50	0.0	
Topic 1-2: Fire Investigator Certification Process	0.25	0.0	
Unit 1 Totals	0.75	0.0	0.75
Unit 2: Scene Documentation			
Topic 2-1: Photographing the Scene	2.0	4.0	
Topic 2-2: Sketching and Diagramming the Scene	1.0	*	
Topic 2-3: Constructing Investigative Notes	1.0	*	
Unit 2 Totals	4.0	4.0	8.0
Unit 3: Unit Evidence Collection and Preservation			
Topic 3-1: Working with Evidence	6.0	0.0	
Topic 3-2: Managing Victims and Fatalities	2.0	0.0	
Topic 3-3: Selecting Evidence for Analysis	2.0	0.0	
Topic 3-4: Maintaining a Chain of Custody	1.0	0.0	
Topic 3-5: Preparing a Written Report	3.0	6.0	
Topic 3-6: Disposing of Evidence	0.5	0.0	
Topic 3-7: Developing an Interview Plan	1.0	0.0	
Topic 3-8: Conducting an Interview	1.0	0.5	
Topic 3-9: Evaluating Interview Information	1.0	0.0	
Unit 3 Totals	17.5	6.5	24.0
Unit 4: Wildland Fire Investigation			
Topic 4-1: Wildland Fire Investigator Roles and Responsibilities	0.25	0.0	
Topic 4-2: Documenting a Wildland Fire Scene	1.25	1.50	
Topic 4-3: Identifying Origin Areas	1.50	0.0	
Topic 4-4: Identifying Wildland Fire Ignition Source and Cause	0.50	0.0	
Topic 4-5: Working with Wildland Fire Evidence	0.25	0.0	
Unit 4 Totals	3.75	1.50	5.25
Formative Assessments			
Determined by AHJ or educational institution	0.0	0.0	0.0
Summative Assessment			
Determined by AHJ or educational institution	0.0	2.0	2.0
Course Totals	26.0	14.0	40.0

* The 4 hours identified for application in Topic 2-1 covers all of Unit 2.

Time Table Key

1. The Time Table documents the amount of time estimated to deliver the content included in the course plan.
2. Time is documented using the quarter system: 15 min. = .25 / 30 min. = .50 / 45 min. = .75 / 60 min. = 1.0.
3. The Course Totals do not reflect time for lunch (1 hour) or breaks (10 minutes per each 50 minutes of instruction or assessment). It is the instructor's responsibility to add this time based on the course delivery schedule.
4. Application (activities, skills exercises, and formative testing) time will vary depending on the number of students enrolled. The Application time documented is based on the maximum class size identified in the Course Details section.
5. Summative Assessments are determined and scheduled by the authority having jurisdiction. These are not the written or psychomotor State Fire Training certification exams. These are in-class assessments to evaluate student progress and calculate course grades.

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, skills exercises, 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
 - Activities
 - Required student resources
 - Class participation requirements

Discussion Questions

1. Determined by instructor

Application

1. Determined by 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 levels of certification in the Fire Investigator certification track
 - Not applicable
2. Identify the prerequisites for Fire Investigator certification
 - Not applicable
3. Identify the course work required for Fire Investigator certification
 - Fire Investigator 1A (2017 or 2022) (SFT)
 - Fire Investigator 1B: Interview, Evidence, and Documentation, and Wildland (2022)
or
Fire Investigator 1B: Evidence and Documentation (2017) **and** FI-110: Wildland Fire Observations and Origin Scene Protection for First Responders (NWCG) **and** Fundamentals of Interviewing (CFTITrainer.net) **and** Introduction to Evidence (CFTITrainer.net)
or
Fire Investigator 1B: Evidence and Documentation (2017) **and** Wildland Fires Investigation (CFITrainer.net) **and** Fundamentals of Interviewing (CFTITrainer.net) **and** Introduction to Evidence (CFTITrainer.net)
 - Fire Investigator 1C (2017 or 2002) (SFT)
 - PC832: Arrest (POST #80102)
 - Must be completed within two years of applying for certification unless candidate is employed as a peace officer
4. Identify the exams requirements for Fire Investigator certification
 - Not applicable
5. Identify the task book requirements for Fire Investigator certification
 - Fire Investigator Certification Task Book (2022)
6. Identify the experience requirements for Fire Investigator certification
 - A minimum of two (2) years' full-time paid experience with a recognized California fire or law enforcement agency
 - Investigate 25 fires as the lead investigator (verified in chief's, sheriff's, or equivalent's letter)
7. Identify the position requirements for Fire Investigator certification
 - None
8. 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, Police Chief, Sheriff, or equivalent or authorized representative verify task book completion via signature
 - Must be employed by a California fire or law enforcement agency in the position prior to submitting completed task book to State Fire Training
9. Describe the certification testing process
- Not applicable
 - All formative and summative testing is completed in individual courses

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Draft

Unit 2: Scene Documentation

Topic 2-1: Photographing the Scene

Terminal Learning Objective

At the end of this topic a student, given standard tools and equipment, will be able to photographically document the scene to accurately depict the scene and so that the photographs support scene findings.

Enabling Learning Objectives

1. Discuss working knowledge of high-resolution camera and flash
2. Discuss the types of media capture and collection
3. Describe the strengths and limitations of each type of media capture and collection
4. Describe the process of photographing a scene
5. Operate a high-resolution camera, flash, and accessories
6. Describe a photo log and its purpose

Discussion Questions

1. What photographic issues might be at a fire scene?
2. How does a fire investigator approach the photographic documentation of a fire scene?
3. Why are personal cameras and cell phones not used to photograph a fire scene?
4. What is done with poor-quality photographs?
5. What is important to photograph at a fire scene?

Application

1. Activity 2-1: Scene Documentation

Instructor Notes

1. None

CTS Guide Reference: CTS 3-2

Topic 2-2: Sketching and Diagramming the Scene

Terminal Learning Objective

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

Enabling Learning Objectives

1. Define commonly used symbols and legends that clarify the diagram
2. Describe types of evidence and patterns that need to be documented
3. Identify formats for diagramming the scene
4. Sketch the scene
5. Perform basic drafting skills
6. Locate evidence
7. Demonstrate 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?

Application

1. Activity 2-1: Scene Documentation

Instructor Notes

1. None

CTS Guide Reference: CTS 3-1

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., pre-fire plans and inspection reports), and interview information, will be able to construct investigative notes that provide accurate documentation of the scene.

Enabling Learning Objectives

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

Discussion Questions

1. What are some important scene observations to include in notes?
2. How detailed should notes be in order to construct a report?
3. Can you legally destroy notes after the report is written?
4. Are notes discoverable if they are in the investigative file?

Application

1. Activity 2-1: Scene Documentation

Instructor Notes

1. For more information and sample forms for scene documentation, see NFPA 921, Figure A.3.2(a) through Figure A.16.3.2(k). For sample forms for documentation of compartment fire modeling data, see NFPA 921, Figure A.3.2(k).

CTS Guide Reference: CTS 3-3

Unit 3: Evidence Collection and Preservation

Topic 3-1: Working with Evidence

Terminal Learning Objective

At the end of this topic a student, given standard or special tools and equipment and evidence collection materials, will be able to process evidence and establish chain of custody by locating, documenting, collecting, labeling, packaging, and storing evidence so that it is properly identified and preserved for use in testing, legal, or other proceedings and examinations, avoiding 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 collecting evidence and establishing a chain of custody
 - Civil subrogation
 - Criminal evidence
3. Describe an evidence log and its purpose
4. Describe the impact of removing evidentiary items on civil or criminal proceedings (exclusionary or fire-cause supportive evidence)
5. Discuss legal repercussions regarding evidence spoliation
6. Describe how to secure and store evidence
7. Determine whether evidence is critical to the investigation
8. Describe types of evidence
9. Explain standard and special tools and equipment used to locate evidence
 - Types
 - Capabilities
 - Limitations
10. Identify the types of laboratory tests available
11. Identify packaging techniques and materials

Discussion Questions

1. How significant is a chain of custody?
2. How can a chain of custody be compromised?
3. Why is it important to leave space in a container of fire debris?
4. What is the importance of properly documenting and packaging evidence?
5. What are the steps to properly marking an evidence container?
6. What is the role of the fire investigator in collecting evidentiary items (exclusionary or fire-cause supportive evidence)?

Application

1. Determined by instructor

Instructor Notes

1. Refer to Physical Evidence Bulletins (Office of the Attorney General).
2. Refer to NFPA 1033 Annex A for definitions of standard and special tools.

CTS Guide Reference: CTS 4-2

Draft

Topic 3-2: Managing Victims and Fatalities

Terminal Learning Objective

At the end of this topic a student, given a protocol and appropriate personnel, will be able to utilize proper procedures for managing victims and fatalities to discover and preserve all evidence and follow protocol procedures.

Enabling Learning Objectives

1. Describe types of evidence associated with fire victims and fatalities
2. Discuss evidence preservation methods
 - Authority to collect evidence from fatalities
3. Demonstrate observational skills
4. Apply AHJ procedures
 - Coordinating with coroner/medical examiner
 - Obtaining autopsy reports
 - Coordinating with local law enforcement

Discussion Questions

1. What evidence should you collect from a victim?
2. What is unique about the way a fire investigator approaches a fire scene with a fatality?
3. What protocols does your AHJ have for a fatal fire?
4. Why should a fire investigator attend an autopsy?

Application

1. Determined by instructor

Instructor Notes

1. Consider inviting a guest lecturer from the coroner's office for this topic.

CTS Guide Reference: CTS 4-1

Topic 3-3: Selecting Evidence for Analysis

Terminal Learning Objective

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

Enabling Learning Objectives

1. Discuss criteria for selecting evidence for analysis
2. Explain purposes for submitting items for analysis
3. Identify types of analytical services available
4. Describe capabilities and limitations of the services performing the analysis
5. Destructive
6. Non-destructive
7. Evaluate fire scene to determine forensic, engineering, or laboratory needs
8. Describe needs related to prioritizing testing given limited evidence

Discussion Questions

1. Why submit evidence for analysis?
2. What types of evidence should be analyzed?
3. How does the evidence determine the type of analysis that should be considered?
4. What is destructive testing, and when should it be done?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 4-3

Topic 3-4: Maintaining a Chain of Custody

Terminal Learning Objective

At the end of this topic a student, given standard investigative tools, marking tools, and evidence tags or logs, will be able to maintain a chain of custody so that written documentation exists for each piece of evidence and evidence is secured.

Enabling Learning Objectives

1. Describe and execute transfer of custody procedures
2. Identify types of evidence
 - Physical evidence obtained at the scene
 - Media
 - Documents
3. Describe methods of recording the chain of custody
4. Demonstrate the chain of custody procedures
5. Describe the types of evidence storage
6. Accurately complete necessary documentation

Discussion Questions

1. Where should evidence be stored?
2. How should evidence be stored?
3. What are the different methods of recording the chain of custody?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 4-4

Topic 3-5: Preparing a Written Report

Terminal Learning Objective

At the end of this topic a student, given investigative findings, will be able to prepare a written report so that the report accurately reflects the facts, data, and scientific principles on which the investigator relied; clearly identifies and expresses the investigator's opinions and conclusions; and contains the reasoning by which the investigator reached each opinion or conclusion to meet the needs or requirements of the intended audience(s).

Enabling Learning Objectives

1. Describe elements of writing
 - Purpose
 - Audience
 - Clarity
 - Coherence
 - Accuracy
2. Describe components of a written report
 - Summary of events
 - Notification and response/chronology of events
 - Property description
 - Scene observations
 - Witness statements
 - Reasoning by which each opinion and conclusion was reached
 - Area of origin
 - Fire patterns
 - Fire dynamics
 - Witness statements/electronic media
 - Cause
 - Fuel
 - Ignition source(s)
 - Act or omission that brought a competent ignition source and material first ignited
 - Attachments
3. Explain how to transfer investigative notes into a fire investigation report
4. Identify types of audiences and their respective needs or requirements
5. Demonstrate writing skills
6. Analyze information

Discussion Questions

1. Why is it important to demonstrate good writing skills?
2. What is the purpose of a fire investigation report?
3. What should be included in the report? As important, what should not be included?
4. How detailed should the report be?

Application

1. Activity 3-5: Fire Investigation Report

Instructor Notes

1. Refer to the Five Elements of Writing (http://ngl.cengage.com/assets/downloads/greatwi_pro0000000335/gw3_unit2.pdf).
2. Clarify that we do not identify types of audiences and their needs or requirements to write to their bias but to write within their format and answer their unique questions.

CTS Guide Reference: CTS 8-1

Draft

Topic 3-6: Disposing of Evidence

Terminal Learning Objective

At the end of this topic a student, given jurisdictional or agency regulations and file information, will be able to dispose of evidence in a timely manner, safely conducted, and 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. Demonstrate documentation skills

Discussion Questions

1. How long should evidence be kept?
2. What are some options for disposing of evidence?
3. Who may require notification before evidence is disposed?

Application

1. Determined by instructor

Instructor Notes

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

CTS Guide Reference: CTS 4-5

Topic 3-7: Developing an Interview Plan

Terminal Learning Objective

At the end of this topic a student, given no special tools or equipment, will be able to develop an interview plan 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.

Enabling Learning Objectives

1. Describe the difference between "interview" and "interrogation"
2. Identify critical persons to interview at the scene
3. Determine types of questions that are pertinent and efficient to ask of different information sources
 - Open-ended (not leading)
4. Develop focused questions for specific individuals
 - First responders
 - Neighbors
 - Witnesses
 - Suspects
5. Demonstrate planning skills
 - Language and cultural considerations
6. Evaluate existing file data to help develop questions and fill investigative gaps
7. Determine when and what visual aids might be helpful in conducting an interview
8. Discuss the benefits and limitations of interviews versus document gathering

Discussion Questions

1. Who are critical persons to interview at the scene?
2. What are planning considerations within your AHJ?

Application

1. Determined by instructor

Instructor Notes

1. Refer to Physical Evidence Bulletins (Office of the Attorney General)
2. Refer to NFPA 1033 Annex A for definitions of standard and special tools
3. Make sure to convey that successful and unsuccessful types of questions are the same no matter the person—i.e., open-ended, not leading, questions are key for all information sources.

CTS Guide Reference: CTS 5-1

Topic 3-8: Conducting an Interview

Terminal Learning Objective

At the end of this topic a student, given incident information, will be able to conduct an interview to obtain pertinent information, ask follow-up questions, elicit responses to all questions, and accurately document the response to each question.

Enabling Learning Objectives

1. Identify types of interviews
 - In-person
 - Phone
 - Virtual
2. Describe personal identifying information needed for proper documentation or follow-up
3. Identify documenting methods and tools
4. Identify types of verbal and nonverbal communications
5. Adjust interviewing approach based on deductive reasoning
 - Interview witnesses separately
6. Describe and apply legal requirements
7. Demonstrate active listening skills

Discussion Questions

1. What are the legal requirements for interviewing as a peace officer and not?
2. How can using active listening skills establish rapport with interviewees, particularly those who may be hesitant or traumatized?

Application

1. Given fire investigation scenarios, have students pair up and conduct interviews.

Instructor Notes

1. Be careful not to teach interrogation techniques.

CTS Guide Reference: CTS 5-2

Topic 3-9: Evaluating Interview Information

Terminal Learning Objective

At the end of this topic a student, given interview transcripts or notes and incident data, will be able to evaluate interview information 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.

Enabling Learning Objectives

1. Describe how to evaluate interview information
2. Identify data correlation methods
3. Demonstrate data correlation skills
4. Evaluate source information
 - First responders
 - Other witnesses
5. Evaluate information obtained during interviews to determine follow-up

Discussion Questions

1. How would you determine the need for follow-up?
2. How would you evaluate interview information?
3. How do you verify witness statements?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 5-3

Unit 4: Wildland Fire Investigation

Topic 4-1: Wildland Fire Investigator Roles and Responsibilities

Terminal Learning Objective

At the end of this topic a student, given an actual or simulated wildland fire incident, will be able to describe the roles and responsibilities of a fire investigator in a wildland setting to safely identify, secure, and protect the areas of origin.

Enabling Learning Objectives

1. Identify importance of determining jurisdictional responsibility for investigation
 - Federal (FRA), including Tribal
 - State (SRA)
 - Local (LRA)
2. Identify basic responsibilities of a fire investigator at a wildland scene
 - Record observations en route and upon arrival at a fire scene
 - Perform a site safety assessment
 - Photograph and document fire scene as soon as practical
 - Identify and protect the area of origin until documented
 - Secure the different origin areas from nonessential personnel
 - Mark with boundary tape
 - Identify and protect physical evidence
3. Discuss the systematic method of investigating a wildfire
 - Begins in the advancing area of the fire
 - Continues from each of the general origin areas to the ignition area
4. Identify equipment specific to a wildland investigation
 - Compass / GPS unit
 - Belt weather kit or digital weather instrument
 - Flagging
 - Magnet
5. Identify Personal Protective Equipment (PPE)
 - Fire shelter
 - Helmet / goggles
 - Fire resistant clothing
 - Boots

Discussion Questions

1. Why is it important for investigators to protect wildland fire origins and scenes?
2. What are the different types of jurisdictions?
3. Given a wildland fire, how are individual responsibilities determined?
4. What are some potential consequences of inaccurate or incomplete documentation of wildland fire origins and scenes?
5. How can investigators ensure their own safety when protecting wildland fire origins and scenes?
6. What are observations fire investigators may make while responding to the incident?

7. What is the importance of the specific equipment and PPE?

Application

1. Determined by instructor

Instructor Notes

1. Demonstrate a belt weather kit and flagging for reference.

CTS Guide Reference: CTS 6-1

Draft

Topic 4-2: Documenting a Wildland Fire Scene

Terminal Learning Objective

At the end of this topic a student, given a simulated or actual wildland fire incident, will be able to assist with documenting the wildland fire scene to accurately represent the scene and identify evidence, pertinent contents, significant patterns, and area(s) or point(s) of origin.

Enabling Learning Objectives

1. Describe documenting a wildfire scene
 - General origin area (GOA)
 - Specific origin area (SOA)
 - Ignition area (IA)
 - Physical evidence
 - Potential witness information
 - On-scene weather readings
 - Topography reading
2. Discuss outside influences on a wildland scene
 - Public
 - Animals
 - Weather
 - Light
 - Aircraft
 - Fire suppression
3. Describe how to gather digital media
 - Aerial
 - Personal action cameras
 - Social media
 - Witness media
 - Emergency personnel media
4. Identify and interview witnesses
5. Demonstrate data-reduction skills
6. Demonstrate note-taking skills
7. Use cameras and accessories
8. Demonstrate observational and correlational skills
9. Describe how to collect and document on-scene weather readings
 - Use belt weather kit or digital weather instrument
 - Obtain at or near GOA
 - Use RAWS data closest to incident

Discussion Questions

1. What are some challenges to documenting a wildland incident?
2. In what ways can evidence at a wildland incident be uniquely compromised?
3. Why is weather data important?

4. If weather is not taken at the time of the fire, what reliable resources exist to get weather information?

Application

1. Collect weather data using belt weather kit or digital weather instrument.

Instructor Notes

1. Demonstrate a belt weather kit and flagging for reference.
2. Provide diagrams of GOA, SOA, and IA.

CTS Guide Reference: CTS 6-2

Draft

Topic 4-3: Identifying Origin Areas

Terminal Learning Objective

At the end of this topic a student, given an actual or simulated wildland fire incident, will be able to assist with identifying the origin areas so that the opinion regarding origin is supported by the data, facts, and evidence.

Enabling Learning Objectives

1. Describe what influences wildland fire behavior
 - Fuels
 - Types, quantities, moisture Content
 - Weather
 - Topography
2. Describe parts of a wildland fire
 - Head / Advancing
 - More damage
 - Rapid spread
 - Indicators in line with direction of spread
 - Flank / Lateral
 - Some residual fuels
 - Indicators at 45° to 90° angle
 - In line with advancing indicators if wind influenced
 - Heel / Backing
 - More residual fuels
 - Indicators in line with direction of spread
 - Transition zones
 - Area of directional change based on variations in intensity
 - Area of change between advancing, lateral, and backing vectors
 - General Origin Area (GOA)
 - Larger area where fire first established itself and is identified by an analysis of fire behavior context, fire pattern indicators, and witness statements
 - General origin area includes within its boundary the specific origin area and ignition area
 - Specific Origin Area (SOA)
 - Smaller area within general origin area where fire's direction of spread was first influenced by fuel, weather, and/or topography
 - SOA will contain Ignition Area
 - Generally characterized by subtle and microscale fire pattern indicators as a result of less intense burning associated with initial stages of fire
 - Ignition Area (IA)
 - Smallest area that a wildland fire investigator can define based on physical evidence of fire pattern indicators, within specific origin area, in which a competent ignition source came into contact with first fuel ignited and combustion was sustained
3. Identify and describe fire direction indicators

- A physical object that displays changes (fire effects) from exposure to heat, flame, and combustion by-products that can reveal the direction of fire progression
 - A fire direction indicator is a single component of the overall fire pattern
- Indicators
 - Protection
 - Side of a physical object facing away from oncoming fire is shielded from full heat and/or byproducts of fire
 - Grass stem
 - Unconsumed grass stems and heads of cured grass left lying on ground after passage of a fire that under certain circumstances point in direction that fire came from
 - Typically found in areas of low-intensity burning including but not limited to backing and lateral areas of fire progression
 - These indicators are typically missing from areas of high-intensity burning where they are normally consumed
 - Foliage freeze
 - Small branches, needles, and leaves swept into a position by wind and fixed by desiccation indicating wind direction at time of fire passage
 - Angle of char
 - Angled or horizontal char or scorch pattern created on standing fuels as fire burns up to, past, and beyond, indicating direction of fire progression
 - Fire enters low, exits high (Advancing fire)
 - Parallel to slope or ground (Backing fire)
 - Spalling
 - Rock or boulders that display more chipping or pitting on exposed surface than protected surface due to passage of fire indicating direction of fire progression at that location
 - Exposed side is side facing oncoming fire, not necessarily direction of ignition area
 - Curling
 - Uncured green leaves and succulents, uncured vegetation which bends and curls inward inwards towards the heat source due to desiccation
 - Folds in the direction the fire was traveling
 - Occurs in slower moving lighter burns (backing and lateral fire spread)
 - Sooting
 - Objects displaying more soot deposits on exposed surface of object than on protected surface of object indicating direction of fire progression at that location
 - Staining
 - Objects displaying more stain deposits on exposed surface of object than on protected surface of object indicating direction of fire progression at that location

- Ash deposits
 - Deposits: Objects displaying more white ash deposits on exposed surface of object as opposed to protected surface of object indicating the direction of fire progression at that location
 - Exposure: Objects displaying more attached white ash on exposed surface of object as opposed to protected surface of object indicating direction of fire progression at that location
 - Cupping
 - A concave or cup-shaped char pattern found on side of fuels exposed to oncoming fire including:
 - Small stumps
 - Grass stem ends
 - Terminal ends of brush and tree limbs that indicate direction of fire progression at that point
 - V or U patterns
 - Fire pattern resembles a V or U shape and indicates direction of fire progression on horizontal surface or plane
 - V pattern indicator
 - High wind flat ground
 - Origin on steep slope
 - Look below the canopy for pattern boundaries
 - U patterns indicator
 - Light wind flat ground
 - Origin on moderate slope
 - Look below the canopy for pattern boundaries
4. Describe the relationship between individual indicators and overall fire pattern(s), which may reveal overall fire progression
 5. Demonstrate analytical and assimilation skills
 6. Discuss indicator flags and their use
 - Color
 - Placement

Discussion Questions

1. How do indicators help determine the overall fire pattern?
2. How do indicators help determine origin areas?
3. What types of vegetation are common in your response area?

Application

1. Determined by instructor

Instructor Notes

1. Reference the *Guide to Wildland Fire Origin and Cause Determination (NWCG)*.

CTS Guide Reference: CTS 6-3

Topic 4-4: Identifying Wildland Fire Ignition Source and Cause

Terminal Learning Objective

At the end of this topic a student, given an actual or simulated wildland fire scene, will be able to assist with identifying the ignition source and cause of a wildland fire so that what brought the ignition source and materials together is determined.

Enabling Learning Objectives

1. Identify categories of fire causes and ignition sources
 - Lightning
 - Campfires
 - Smoking
 - Debris burning
 - Burn barrels
 - Field or agricultural burn
 - Open trash burning
 - Incendiary
 - Equipment and Vehicle
 - Tractor
 - Chainsaw
 - Railroad
 - Children
 - Miscellaneous
 - Firearms
 - Explosives
 - Fireworks
 - Power generation, transmission, or distribution
 - Spontaneous combustion
2. Employ search techniques

Discussion Questions

1. What are open flame ignition causes?
2. What is the difference between lightning and miscellaneous electrical causes?
3. What is the difference between a debris fire and spontaneous combustion?
4. Does an investigator need to eliminate an ignition source that is not present?

Application

1. Determined by instructor

Instructor Notes

1. Reference the *Guide to Wildland Fire Origin and Cause Determination* (NWCG).

CTS Guide Reference: CTS 6-4

Topic 4-5: Working with Wildland Fire Evidence

Terminal Learning Objective

At the end of this topic a student, given an actual or simulated wildland fire scene, will be able to assist with locating, photographing, documenting, and protecting wildland fire evidence so that evidence is properly identified, preserved, collected, packaged, and stored for use in testing, legal, or other proceedings and examinations.

Enabling Learning Objectives

1. Describe how evidence is located and identified at a wildland fire scene
 - Gridding
 - Sifting
 - Flagging
2. Identify equipment and vehicle use evidence
 - Keep suppression efforts away to avoid destroying potential evidence
 - Tire or track impressions near the general origin area
 - Identify and protect evidence of equipment operation at or near the ignition area
 - Identify and protect rock strike locations
 - Identify and protect scrape marks on pavement
3. Identify any evidence of firearms use
 - Ammunition
4. Identify firework evidence
5. Identify evidence related to power generation, transmission, or distribution
 - Photograph power line conditions and other relevant evidence from a safe distance prior to utility repair crew removal
 - Photograph and document power pole identification numbers
 - Document and report removal of equipment or evidence by utility repair crews
6. Identify incendiary evidence
 - Footwear impressions
 - Incendiary devices
 - Document persons or vehicles entering or leaving the fire scene
7. Recognize different types of evidence
8. Determine whether evidence is critical to the investigation

Discussion Questions

1. How can investigators preserve evidence related to wildland fires?
2. Why is it important to identify and document components of incendiary device evidence?
3. What type of location or indicators might lead an investigator to believe firearms are commonly used in the area?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 6-5

How to Read a Course Plan

A course plan identifies the details, logistics, resources, and training and education content for an individual course. Whenever possible, course content is directly tied to a national or state standard. SFT uses the course plan as the training and education standard for an individual course. Individuals at fire agencies, academies, and community colleges use course plans to obtain their institution's consent to offer courses and provide credit for their completion. Instructors use course plans to develop syllabi and lesson plans for course delivery.

Course Details

The Course Details segment identifies the logistical information required for planning, scheduling, and delivering a course.

Required Resources

The Required Resources segment identifies the resources, equipment, facilities, and personnel required to deliver the course.

Unit

Each Unit represents a collection of aligned topics. Unit 1 is the same for all SFT courses. An instructor is not required to repeat Unit 1 when teaching multiple courses within a single instructional period or academy.

Topics

Each Topic documents a single Terminal Learning Objective and the instructional activities that support it.

Terminal Learning Objective

A Terminal Learning Objective (TLO) states the instructor's expectations of student performance at the end of a specific lesson or unit. Each TLO includes a task (what the student must be able to do), a condition (the setting and supplies needed), and a standard (how well or to whose specifications the task must be performed). TLOs target the performance required when students are evaluated, not what they will do as part of the course.

Enabling Learning Objectives

The Enabling Learning Objectives (ELO) specify a detailed sequence of student activities that make up the instructional content of a lesson plan. ELOs cover the cognitive, affective, and psychomotor skills students must master to complete the TLO.

Discussion Questions

The Discussion Questions are designed to guide students into a topic or to enhance their understanding of a topic. Instructors may add to or adjust the questions to suit their students.

Application

The Application segment documents experiences that enable students to apply lecture content through cognitive and psychomotor activities, skills exercises, and formative testing. Application experiences included in the course plan are required. Instructors may add additional application experiences to suit their student population if time permits.

Instructor Notes

The Instructor Notes segment documents suggestions and resources to enhance an instructor's ability to teach a specific topic.

CTS Guide Reference

The CTS Guide Reference segment documents the standard(s) from the corresponding Certification Training Standard Guide upon which each topic within the course is based. This segment is eliminated if the course is not based on a standard.

Skill Sheet

The Skill Sheet segment documents the skill sheet that tests the content contained within the topic. This segment is eliminated if the course does not have skill sheets.

Draft

Scene Documentation

Format: Individual

Time: 4 hours

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 (e.g., tablet or cell phone)
- Graph paper
- Photo log
- Notepad
- Pens and pencils

Instructions

1. Photograph three evidentiary items (overall, midrange, and close up for each item).
2. Prepare a photo log for all photographs.
3. Using graph paper, sketch 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 evidentiary items at each scene.
4. Review each student's documents for the following:
 - Photographs accurately document and support scene findings
 - Photo log completed
 - Sketch 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 Report

Format: Individual

Time: 6 hours (2 hours for prep work and 4 hours for presentation and discussion – additional work time may be required outside of class)

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 that, at a minimum, includes:
 - Summary of events
 - Notification and response/chronology of events
 - Property description
 - Scene observations
 - Witness statements
 - Opinions and conclusions
 - Attachments

Instructor Notes

1. This is a 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 (2022)

Course Plan

Course Details

Certification:	Fire Investigator
CTS Guide:	Fire Investigator (2022)
Description:	This course provides the skills and knowledge needed for the Fire Investigator to safely, effectively, and competently address legal considerations for a court proceeding including gathering reports and records, evaluating investigative files, coordinating expert resources, formulating opinions, presenting investigative findings, and testifying during legal proceedings.
Designed For:	Personnel preparing to pursue Fire Investigator certification or anyone who performs the duties of a Fire Investigator within their agency.
Prerequisites:	Fire Investigator 1A: Basic Fire Investigation (2017 or 2022) Fire Investigator 1B: Evidence, Documentation, Interviews, and Wildland (2022) or Fire Investigator 1B: Evidence and Documentation (2017) and FI-110: Wildland Fire Observations and Origin Scene Protection for First Responders (NWCG) and Fundamentals of Interviewing (CFTITrainer.net) and Introduction to Evidence (CFTITrainer.net) or Fire Investigator 1B: Evidence and Documentation (2017) and Wildland Fires Investigation (CFITrainer.net) and Fundamentals of Interviewing (CFTITrainer.net) and Introduction to Evidence (CFTITrainer.net) Motive, Means, and Opportunity: Determining Responsibility in an Arson Case (CFITrainer.net)
Standard:	Complete all activities and formative tests. Complete all summative tests with a minimum score of 80%.
Hours (Total):	40 hours (18 lecture / 21 application / 1 testing)
Maximum Class Size:	30

Instructor Level: SFT Fire Investigator 1C Registered Instructor

Instructor/Student Ratio: 1:30

Restrictions: See Facilities, Equipment, and Personnel

SFT Designation: CFSTES

Draft

Table of Contents

Course Details	1
Required Resources	4
Instructor Resources	4
Online Instructor Resources	4
Student Resources	4
Facilities, Equipment, and Personnel.....	4
Time Table.....	6
Time Table Key.....	7
Unit 1: Introduction	8
Topic 1-1: Orientation and Administration.....	8
Topic 1-2: Fire Investigator Certification Process.....	9
Unit 2: Legal Considerations	11
Topic 2-1 Gathering Reports and Records.....	11
Topic 2-2: Evaluating Investigative Files	12
Topic 2-3: Coordinating Expert Resources.....	13
Topic 2-4: Formulating Opinions	14
Topic 2-5: Expressing Investigative Findings	15
Topic 2-6: Testifying During Legal Proceedings.....	16
How to Read a Course Plan.....	17

Required Resources

Instructor Resources

To teach this course, instructors need:

- One of the following textbooks and accompanying tool kits and test banks:
 - *Fire Investigator Principles and Practice* (Jones and Bartlett, 6th edition, 2022)
or
 - *Fire Investigator* (IFSTA, 3rd edition, 2021)
- NFPA 921: Guide for Fire and Explosion Investigations (current edition)
- NFPA 1033: Standard for Professional Qualifications for Fire Investigator (current edition)
- ASTM E678 – Standard Practice for Evaluation of Scientific or Technical Data. (additional information regarding evaluation methods)

Online Instructor Resources

The following instructor resources are available online at

<https://osfm.fire.ca.gov/what-we-do/state-fire-training/professional-certifications>

- Fire Investigator 1C Activities

Student Resources

To participate in this course, students need:

- Required textbook chosen by the instructor
- Access to a computer and printer
- Documentation for developing a curriculum vitae
- Proper attire for the courtroom

Facilities, Equipment, and Personnel

Facilities

The following facilities are required to deliver this course:

- Standard learning environment or facility, which may include:
 - Writing board or paper easel chart
 - Markers, erasers
 - Amplification devices
 - Projector and screen
 - Laptop or tablet with presentation or other viewing software
 - Internet access with appropriate broadband capabilities

Equipment

- Evidence samples
- Sample curriculum vitae
- Criminal case files

Personnel

- Qualified persons for conducting a mock trial including lawyers or judges if possible (recommended)
- All instructors counted toward student ratios, including application components, must be SFT Registered 1C Fire Investigator Instructors

Draft

Time Table

Segment	Lecture	Application	Unit Total
Unit 1: Introduction			
Topic 1-1: Orientation and Administration	0.50	0.0	
Topic 1-2: Fire Investigator Certification Process	0.50	0.0	
Unit 1 Totals	1.0	0.0	1.0
Unit 2: Legal Considerations			
Topic 2-1: Gathering Reports and Records	2.0	0.0	
Topic 2-2: Evaluating Investigative Files	1.0	0.0	
Topic 2-3: Coordinating Expert Resources	4.0	1.0	
Topic 2-4: Formulating Opinions	4.0	0.0	
Topic 2-5: Expressing Investigative Findings	2.0	4.0	
Topic 2-6: Testifying During Legal Proceedings	4.0	16.0	
Unit 2 Totals	17.0	21.0	38.0
Formative Assessments			
Determined by AHJ or educational institution	0.0	0.0	0.0
Summative Assessment			
Determined by AHJ or educational institution	0.0	1.0	1.0
Course Totals	18.0	22.0	40.0

Time Table Key

1. The Time Table documents the amount of time estimated to deliver the content included in the course plan.
2. Time is documented using the quarter system: 15 min. = .25 / 30 min. = .50 / 45 min. = .75 / 60 min. = 1.0.
3. The Course Totals do not reflect time for lunch (1 hour) or breaks (10 minutes per each 50 minutes of instruction or assessment). It is the instructor's responsibility to add this time based on the course delivery schedule.
4. Application (activities, skills exercises, and formative testing) time will vary depending on the number of students enrolled. The Application time documented is based on the maximum class size identified in the Course Details section.
5. Summative Assessments are determined and scheduled by the authority having jurisdiction. These are not the written or psychomotor State Fire Training certification exams. These are in-class assessments to evaluate student progress and calculate course grades.

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, skills exercises, 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
 - Activities
 - Required student resources
 - Class participation requirements

Discussion Questions

1. Determined by instructor

Application

1. Determined by 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 levels of certification in the Fire Investigator certification track
 - Not applicable
2. Identify the prerequisites for Fire Investigator certification
 - Not applicable
3. Identify the course work required for Fire Investigator certification
 - Fire Investigator 1A (2017 or 2022) (SFT)
 - Fire Investigator 1B: Interview, Evidence, and Documentation, and Wildland (2022)
or
Fire Investigator 1B: Evidence and Documentation (2017) **and** FI-110: Wildland Fire Observations and Origin Scene Protection for First Responders (NWCG) **and** Fundamentals of Interviewing (CFTITrainer.net) **and** Introduction to Evidence (CFTITrainer.net)
or
Fire Investigator 1B: Evidence and Documentation (2017) **and** Wildland Fires Investigation (CFITrainer.net) **and** Fundamentals of Interviewing (CFTITrainer.net) **and** Introduction to Evidence (CFTITrainer.net)
 - Fire Investigator 1C (2017 or 2002) (SFT)
 - PC832: Arrest (POST #80102)
 - Must be completed within two years of applying for certification unless candidate is employed as a peace officer
4. Identify the exams requirements for Fire Investigator certification
 - Not applicable
5. Identify the task book requirements for Fire Investigator certification
 - Fire Investigator Certification Task Book (2022)
6. Identify the experience requirements for Fire Investigator certification
 - A minimum of two (2) years' full-time paid experience with a recognized California fire or law enforcement agency
 - Investigate 25 fires as the lead investigator (verified in chief's, sheriff's, or equivalent's letter)
7. Identify the position requirements for Fire Investigator certification
 - None
8. 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, Police Chief, Sheriff, or equivalent or authorized representative verify task book completion via signature
 - Must be employed by a California fire or law enforcement agency in the position prior to submitting completed task book to State Fire Training
9. Describe the certification testing process
- Not applicable
 - All formative and summative testing is completed in individual courses

Discussion Questions

1. Determined by instructor

Application

1. Determined by instructor

Draft

Unit 2: Legal Considerations

Topic 2-1 Gathering Reports and Records

Terminal Learning Objective

At the end of this topic a student, given no special tools, equipment, or materials, will be able to gather reports and records that are applicable to the investigation, complete, and authentic; the chain of custody is maintained; and the material is admissible in a legal proceeding.

Enabling Learning Objectives

1. Describe types of reports and records needed to facilitate determining responsibility for the fire
 - Police reports
 - Fire reports
 - Insurance files
 - Utility records
 - Financial records
 - Deeds
 - Private investigator files
 - County records
 - Death certificates/coroner's reports
 - Medical records
 - Outside photos and videos
2. Identify location of reports and records
3. Identify process of obtaining reports and records
4. Identify reports and records necessary for the investigation
5. Implement chain of custody
6. Demonstrate organizational skills

Discussion Questions

1. What type of information is available from local, state, and federal government?
2. What are some different processes for obtaining reports and records?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 7-1

Topic 2-2: Evaluating Investigative Files

Terminal Learning Objective

At the end of this topic a student, given all available 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 file assessment and/or evaluation process
2. Identify requisite investigative elements
 - Determine an offense has occurred
 - Identify a victim or a place of incident
 - Determine incident circumstances
 - Identify investigative tasks to complete
3. Demonstrate information assessment skills
4. Demonstrate correlation skills
5. Demonstrate organizational skills

Discussion Questions

1. What are some ways to evaluate or assess an investigative file?
2. What is your AHJ's evaluation process?

Application

1. Determined by instructor

Instructor Notes

1. None

CTS Guide Reference: CTS 7-2

Topic 2-3: Coordinating Expert Resources

Terminal Learning Objective

At the end of this topic a student, given the investigative file, reports, and documents, will be able to coordinate expert resources to match the 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 qualifications of an expert witness
3. Identify types of expert resources
 - Forensic specialists
 - Polygraph examiners
 - Human behavior experts
 - Engineering specialists
4. Discuss the need and cost for expert resources
5. Network with other investigators to identify experts
6. Develop a 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?
4. What are the types of forensic specialists and engineers?

Application

1. Activity 2-3: Curriculum Vitae

Instructor Notes

1. None

CTS Guide Reference: CTS 7-3

Topic 2-4: Formulating Opinions

Terminal Learning Objective

At the end of this topic a student, given all investigative findings, will be able to formulate an opinion concerning origin, cause, or responsibility for the fire that is supported by the data, facts, records, reports, documents, scientific references, and evidence.

Enabling Learning Objectives

1. Describe analytical methods and procedures
 - Hypothesis development and testing
 - Systems analysis
 - Time lines
 - Link analysis
 - Fault tree analysis
 - Data reduction matrixing
2. Describe how to use the scientific method to formulate your opinion
3. Discuss levels of certainty
 - Possible
 - Probable
 - Conclusive
4. Discuss California statutes, regulations, codes, and local ordinances relating to fire losses
5. Demonstrate analytical and assimilation skills

Discussion Questions

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

Application

1. Determined by instructor

Instructor Notes

1. Relate this topic to the scientific method.

CTS Guide Reference: CTS 7-5

Topic 2-5: Expressing Investigative Findings

Terminal Learning Objective

At the end of this topic a student, given investigative findings, notes, a time allotment, and a specific audience, will be able to express investigative findings 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.

Enabling Learning Objectives

1. Identify types of investigative findings
2. Describe the legal ramifications and other impacts of releasing information
3. Demonstrate communication skills
4. Determine audience needs
5. Correlate findings

Discussion Questions

1. What are key points to share with an attorney about a fire investigation case?
2. What different types of information are useful to present to each particular audience?
3. What information is allowed to be released and to whom?

Application

1. Activity 2-5: Presenting Investigative Findings

Instructor Notes

1. None

CTS Guide Reference: CTS 8-2

Topic 2-6: Testifying During Legal Proceedings

Terminal Learning Objective

At the end of this topic a student, given investigative findings, will be able to testify during legal proceedings so that the testimony accurately reflects the facts, data, and scientific principles on which the investigator relied; clearly identifies and expresses the investigator's opinions and conclusions; and contains the reasoning by which opinion or conclusion was reached.

Enabling Learning Objectives

1. Identify types of findings within the investigative file
2. Describe professional demeanor and attire requirements
3. Describe due process and legal proceedings
4. Demonstrate listening and communication skills
5. Differentiate facts from opinion
6. Determine accepted procedures, practices, and etiquette during legal proceedings
7. Describe pretrial preparation
8. Describe the discovery process

Discussion Questions

1. What steps are part of pre-trial preparation?
2. What should and should not be brought to court?
3. Why is it important to consult with the attorney before testifying?
4. Who is a fire investigator's primary audience when testifying?
5. What is the difference between a trial and a deposition?
6. What is a preliminary hearing?
7. What should a fire investigator do if they misstate a fact during testimony?
8. What should a fire investigator do if they notice mistakes in a pretrial or deposition transcript?

Application

1. Activity 2-6: Courtroom Testimony

Instructor Notes

1. Consider inviting an attorney (that handles criminal cases) to be a guest speaker.

CTS Guide Reference: CTS 8-3

How to Read a Course Plan

A course plan identifies the details, logistics, resources, and training and education content for an individual course. Whenever possible, course content is directly tied to a national or state standard. SFT uses the course plan as the training and education standard for an individual course. Individuals at fire agencies, academies, and community colleges use course plans to obtain their institution's consent to offer courses and provide credit for their completion. Instructors use course plans to develop syllabi and lesson plans for course delivery.

Course Details

The Course Details segment identifies the logistical information required for planning, scheduling, and delivering a course.

Required Resources

The Required Resources segment identifies the resources, equipment, facilities, and personnel required to deliver the course.

Unit

Each Unit represents a collection of aligned topics. Unit 1 is the same for all SFT courses. An instructor is not required to repeat Unit 1 when teaching multiple courses within a single instructional period or academy.

Topics

Each Topic documents a single Terminal Learning Objective and the instructional activities that support it.

Terminal Learning Objective

A Terminal Learning Objective (TLO) states the instructor's expectations of student performance at the end of a specific lesson or unit. Each TLO includes a task (what the student must be able to do), a condition (the setting and supplies needed), and a standard (how well or to whose specifications the task must be performed). TLOs target the performance required when students are evaluated, not what they will do as part of the course.

Enabling Learning Objectives

The Enabling Learning Objectives (ELO) specify a detailed sequence of student activities that make up the instructional content of a lesson plan. ELOs cover the cognitive, affective, and psychomotor skills students must master to complete the TLO.

Discussion Questions

The Discussion Questions are designed to guide students into a topic or to enhance their understanding of a topic. Instructors may add to or adjust the questions to suit their students.

Application

The Application segment documents experiences that enable students to apply lecture content through cognitive and psychomotor activities, skills exercises, and formative testing. Application experiences included in the course plan are required. Instructors may add additional application experiences to suit their student population if time permits.

Instructor Notes

The Instructor Notes segment documents suggestions and resources to enhance an instructor’s ability to teach a specific topic.

CTS Guide Reference

The CTS Guide Reference segment documents the standard(s) from the corresponding Certification Training Standard Guide upon which each topic within the course is based. This segment is eliminated if the course is not based on a standard.

Skill Sheet

The Skill Sheet segment documents the skill sheet that tests the content contained within the topic. This segment is eliminated if the course does not have skill sheets.

Draft

Curriculum Vitae

Format: Individual

Time: 1 hour in class with homework

Description

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

Materials

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

Instructions

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

Instructor Notes

- Provide examples of fire investigator CVs.
- Provide template of fire investigator CV.
- Assist students in creating their CVs.
- Remind students to omit personal contact information.
- Instruct students to include most recent five years of testimony in the CV, with earlier years listed in a separate document.
- Review and provide feedback.

Presenting Investigative Findings

Format: Group

Time:

- 4 hours for in-class presentations (divided across number of groups)
- Development time is homework

Description

This activity provides students with an opportunity to practice presenting a case to a district attorney for filing criminal charges.

Materials

- 1 unique 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 a portion of the group's findings.

Instructor Notes

- Provide basic and straightforward arson scenarios.
- Invite a qualified attorney (that handles criminal cases) to participate in the presentations.
- Provide feedback and recommendations to each group after their presentation.

Courtroom Testimony

Format: Group

Time: 16 hours (divided across number of groups)

Description

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

Materials

- Criminal case files used in Activity 2-5
- Actual courtroom (recommended) or a room set up to simulate a courtroom
- Proper attire
- CVs
- Scripted questions for the prosecuting attorney
- CALCRIM duties of judge and jury (jury instructions) applicable to charges

Personnel

- Prosecuting attorney
 - An experienced fire investigator with courtroom experience may fill this position if a district attorney is unavailable
- Criminal defense attorney
- Judge (Instructor may fill this position)
- Jury (Students from different groups may fill these positions)

Instructions

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

Instructor Notes

- Provide basic and straightforward arson scenarios.
- Set up a positive experience.
- Share jury instructions.
- Each student must experience direct examination 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)

Fire Investigator

(NFPA 1033: Fire Investigator)

Certification Task Book (2022)



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

Overview

Authority

This certification task book includes the certification training standards set forth in the Executive Chief Fire Officer Certification Training Standards Guide (2020) which is based on:

- NFPA 1033: Standard for Professional Qualifications for Fire Investigator (2022)

Published: **Month Year**

Published by: State Fire Training, PO Box 944246, Sacramento, CA 94244-2460

Cover photo courtesy of Wayne Whitney, Captain/Fire Investigator, MAST, San Diego Fire Rescue.

Purpose

The State Fire Training certification task book is a performance-based document that 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 position, and has demonstrated the job performance requirements to obtain that certification.

Assumptions

Except for the Fire Fighter and Emergency Vehicle Technician (EVT) certifications, a candidate may begin the task book initiation process upon completion of all required education components (courses).

Each job performance requirement (JPR) shall be evaluated after the candidate's fire chief initiates the task book.

An evaluator may verify satisfactory execution of a job performance requirement (JPR) through the following methods:

- First-hand observation
- Review of documentation that verifies prior satisfactory execution

State Fire Training task books do not count towards the NWCG task book limit. There is no limit to the number of State Fire Training task books a candidate may pursue at one time if the candidate meets the initiation requirements of each.

It is the candidate's responsibility to routinely check the State Fire Training website for updates to an initiated task book. All State Fire Training issued updates to an initiated task book are required for task book completion.

A candidate must complete a task book within five years its initiation date. Otherwise, a candidate must initiate a new task book using the certification's current published version.

Draft

Roles and Responsibilities

Candidate

The candidate is the individual pursuing certification.

Initiation

The candidate shall:

1. Complete all Initiation Requirements.
 - Please print or type.
2. Obtain their fire chief's signature as approval to open the task book.
 - A candidate may not obtain evaluation signatures prior to the fire chief's initiation approval date.

Completion

The candidate shall:

1. Complete all Job Performance Requirements.
 - Ensure that an evaluator initials, signs, and dates each task to verify completion.
2. Complete all Completion Requirements.
3. Sign and date the candidate verification statement under Review and Approval with a handwritten signature.
4. Obtain their fire chief's handwritten (not stamped) signature on the fire chief verification section.
5. Create and retain a physical or high-resolution digital copy of the completed task book

Submission

The candidate shall:

1. Submit a copy (physical or digital) of the completed task book and any supporting documentation to State Fire Training.
 - See Submission and Review below.

A candidate should not submit a task book until they have completed all requirements and obtained all signatures. State Fire Training will reject and return an incomplete task book.

Evaluator

An evaluator is any individual who verifies that the candidate can satisfactorily execute a job performance requirement (JPR).

An evaluator may verify satisfactory execution through the following methods:

- First-hand observation
- Review of documentation that verifies prior satisfactory execution

A qualified evaluator is designated by the candidate's fire chief* and holds an equivalent or higher-level certification. If no such evaluator is present, the fire chief shall designate an individual with more experience than the candidate and a demonstrated ability to execute the job performance requirements.

A task book evaluator may be, but is not required to be, a registered skills evaluator who oversees a State Fire Training certification exam.

A certification task book may have more than one evaluator.

All evaluators shall:

1. Complete a block on the Signature Verification page with a handwritten signature.
2. Review and understand the candidate's certification task book requirements and responsibilities.
3. Verify the candidate's successful completion of one or more job performance requirements through observation or review.
 - Do not evaluate any job performance requirement (JPR) until after the candidate's fire chief initiates the task book.
 - Sign all appropriate lines in the certification task book with a handwritten signature or approved digital signature (e.g., DocuSign or Adobe Sign) to record demonstrated performance of tasks.

* For certification task books that do not require fire chief, academy instructors serve as or designate evaluators.

Fire Chief

The fire chief is the individual who initiates (when applicable) and then reviews and confirms the completion of a candidate's certification task book.

A fire chief may identify an authorized designee already on file with State Fire Training to fulfill any task book responsibilities assigned to the fire chief. (See *State Fire Training Procedures Manual*, 4.2.2: Authorized Signatories.)

A police chief, sheriff, or equivalent may partner with a fire chief or their authorized designee already on file with SFT to initiate (when applicable) and then review and confirm the completion of a candidate's certification task book. The fire chief or their authorized designee must be the signatory.

Initiation

The fire chief shall:

1. Review and understand the candidate's certification task book requirements and responsibilities.
2. Verify that the candidate has met all Initiation Requirements prior to initiating the candidate's task book.
3. Open the candidate's task book by signing the Fire Chief Approval verification statement with a handwritten (not stamped) signature.
4. Designate qualified evaluators.

Completion

The fire chief shall:

1. Confirm that the candidate has obtained the appropriate signatures to verify successful completion of each job performance requirement.
 - Ensure that all Job Performance Requirements were evaluated after the initiation date.
2. Confirm that the candidate meets the Completion Requirements.
3. Sign and date the Fire Chief verification statement under Review and Approval with a handwritten signature.
 - If signing as an authorized designee, verify that your signature is on file with State Fire Training.

Submission and Review

A candidate should not submit a task book until they have completed all requirements and obtained all signatures. State Fire Training will reject and return an incomplete task book.

To submit a completed task book, please send the following items to the address below:

- A copy of the completed task book (candidate may retain the original)
- All supporting documentation
- Payment

State Fire Training
Attn: Certification
PO Box 944246
Sacramento, CA 94244-2460

State Fire Training reviews all submitted task books.

- If the task book is complete, State Fire Training will authorize the task book and retain a digital copy of the authorized task book in the candidate's State Fire Training file.

- If the task book is incomplete, State Fire Training will return the task book with a notification indicating what needs to be completed prior to resubmission.

Completion of this certification task book is one step in the certification process. Please refer to the *State Fire Training Procedures Manual* for the complete list of qualifications required for certification.

Draft

Initiation Requirements

The following requirements must be completed prior to initiating this task book.

Candidate Information

Name: _____

SFT ID Number: _____

Fire Agency: _____

Prerequisites

SFT confirms that there are no prerequisites required for this certification.

Education

The candidate has completed the following course(s).

- Fire Investigator 1A: Basic Fire Investigation (2017 **or** 2022)
- Fire Investigator 1B: Interview, Evidence, and Documentation, and Wildland (2022)
or
Fire Investigator 1B: Evidence and Documentation (2017) **and** FI-110: Wildland Fire Observations and Origin Scene Protection for First Responders (NWCG) **and** Fundamentals of Interviewing (CFTITrainer.net) **and** Introduction to Evidence (CFTITrainer.net)
or
Fire Investigator 1B: Evidence and Documentation (2017) **and** Wildland Fires Investigation (CFITrainer.net) **and** Fundamentals of Interviewing (CFTITrainer.net) **and** Introduction to Evidence (CFTITrainer.net)
- Fire Investigator 1C: Preparation for Legal Proceedings (2017 **or** 2022)
- PC832: Arrest (POST #80102)
 - Must be completed within two years of applying for certification unless candidate is employed as a peace officer

Include documentation to verify education requirements unless verification is already documented in your SFT User Portal.

Fire Chief Approval

Candidate's Fire Chief

(please print): _____

I, the undersigned, am the person authorized to verify the candidate's task book initiation requirements and to initiate State Fire Training task books. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements to open the task book documented herein are true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documentation may be cause for rejection.

Signature: _____ Date: _____

Draft

Signature Verification

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

Please print except for the Signature line where a handwritten signature is required. Add additional signature pages as needed.

Name: _____
Job Title: _____
Organization: _____
Signature: _____

Name: _____
Job Title: _____
Organization: _____
Signature: _____

Name: _____
Job Title: _____
Organization: _____
Signature: _____

Name: _____
Job Title: _____
Organization: _____
Signature: _____

Name: _____
Job Title: _____
Organization: _____
Signature: _____

Name: _____
Job Title: _____
Organization: _____
Signature: _____

Name: _____
Job Title: _____
Organization: _____
Signature: _____

Name: _____
Job Title: _____
Organization: _____
Signature: _____

Name: _____
Job Title: _____
Organization: _____
Signature: _____

Name: _____
Job Title: _____
Organization: _____
Signature: _____

Job Performance Requirements

The candidate must complete each job performance requirement (JPR) in accordance with the standards of the authority having jurisdiction (AHJ) or the National Fire Protection Association (NFPA), whichever is more restrictive.

When California requirements exceed or require revision to the NFPA standard, the corresponding Office of the State Fire Marshal-approved (OSFM) additions or revisions appear in shaded gray.

All JPRs must be completed within a California fire agency or State Fire Training Accredited Regional Training Program (ARTP).

For JPRs that are not part of a candidate's regular work assignment or are a rare event, the evaluator may develop a scenario or interview that supports the required task and evaluate the candidate to the stated standard.

Each JPR shall be evaluated after the candidate's fire chief initiates the task book.

Scene Examination

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. (NFPA 1033: 4.2.1) (CTS 2-1)

Evaluator Signature: _____ Date Verified: _____

2. Conduct an exterior survey, given standard equipment and tools, so that evidence is identified and preserved, fire damage is interpreted and analyzed, hazards are identified to avoid injuries, accessibility to the property is determined, including all potential means of ingress and egress. (NFPA 1033: 4.2.2) (CTS 2-2)

Evaluator Signature: _____ Date Verified: _____

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. (NFPA 1033: 4.2.3) (CTS 2-3)

Evaluator Signature: _____ Date Verified: _____

4. Interpret and analyze fire patterns, given standard equipment and tools and some structural or content remains, so that each pattern is identified and analyzed with respect to the burning characteristics of the material involved, the stage of fire development, the effects of ventilation within the context of the scene, the relationship with all patterns observed, and the understanding of the methods of heat transfer that led to the formation of the patterns identified and analyzed, and the sequence in which the patterns were produced is determined. (NFPA 1033: 4.2.4) (CTS 2-4)

Evaluator Signature: _____ Date Verified: _____

5. Interpret and analyze fire patterns, given standard equipment and tools and some structural or content remains, so that fire development, fire spread, and the sequence in which fire patterns were developed (i.e., sequential pattern analysis) are determined; methods and effects of suppression are analyzed; fire patterns and effects indicating a hypothetical area or areas of origin are recognized and tested; false or refuted hypothetical areas of origin are eliminated; and all fire effects and patterns are tested against the data, such that the area(s) of origin is correctly identified. (NFPA 1033: 4.2.5) (CTS 2-5)

Evaluator Signature: _____ Date Verified: _____

6. Examine and remove fire debris, given standard or, if necessary, special equipment and tools, so that fire patterns and fire effects concealed by debris are discovered and analyzed; all debris within the potential area(s) of origin is checked for fire cause evidence; potential ignition source(s) is identified; and evidence is preserved without investigator-inflicted damage or contamination. (NFPA 1033: 4.2.6) (CTS 2-6)

Evaluator Signature: _____ Date Verified: _____

7. Reconstruct potential area(s) 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; and items potentially critical to cause determination are returned to their prefire location as a means of hypothesis testing, such that the area(s) or point(s) of origin is discovered. (NFPA 1033: 4.2.7) (CTS 2-7)

Evaluator Signature: _____ Date Verified: _____

8. Inspect and analyze the performance of building systems, including fire protection, detection and suppression systems, HVAC, electricity and electrical systems, fuel gas systems, 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 failed systems are identified; and the system's potential as a fire cause is recognized. (NFPA 1033: 4.2.8) (CTS 2-8)

Evaluator Signature: _____ Date Verified: _____

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. (NFPA 1033: 4.2.9) (CTS 2-9)

Evaluator Signature: _____ Date Verified: _____

Scene Documentation

10. Sketch and 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. (NFPA 1033: 4.3.1) (CTS 3-1)

Evaluator Signature: _____ Date Verified: _____

11. Photographically document the scene, given standard tools and equipment, so that the scene is accurately depicted and the photographs support scene findings. (NFPA 1033: 4.3.2) (CTS 3-2)

Evaluator Signature: _____ Date Verified: _____

12. 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 and provide further documentation of the scene. (NFPA 1033: 4.3.3) (CTS 3-3)

Evaluator Signature: _____ Date Verified: _____

Evidence Collection and Preservation

13. 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. (NFPA 1033: 4.4.1) (CTS 4-1)

Evaluator Signature: _____ Date Verified: _____

14. Locate, document, collect, label, package, and store evidence, given standard or special tools and equipment and evidence collection materials, so that evidence 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 are avoided and the chain of custody is established. (NFPA 2033: 4.4.2) (CTS 4-2)

Evaluator Signature: _____ Date Verified: _____

15. Select evidence for analysis, given all information from the investigation, so the items for analysis support specific investigation needs. (NFPA 1033: 4.4.3) (CTS 4-3)

Evaluator Signature: _____ Date Verified: _____

16. 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. (NFPA 1033: 4.4.4) (CTS 4-4)

Evaluator Signature: _____ Date Verified: _____

17. 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. (NFPA 1033: 4.4.5) (CTS 4-5)

Evaluator Signature: _____ Date Verified: _____

Interview

18. 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. (NFPA 1033: 4.5.1) (CTS 5-1)

Evaluator Signature: _____ Date Verified: _____

19. 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. (NFPA 1033: 4.5.2) (CTS 5-2)

Evaluator Signature: _____ Date Verified: _____

- 20. 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. (NFPA 1033: 4.5.3) (CTS 5-3)

Evaluator Signature: _____ Date Verified: _____

Wildland Fire Investigation

- 21. Assist with documenting a wildland fire scene, given a simulated or actual wildland fire incident, to accurately represent the scene and identify evidence, pertinent contents, significant patterns, and area(s) or point(s) of origin.* (OSFM) (CTS 6-2)

Evaluator Signature: _____ Date Verified: _____

- 22. Assist with identifying the origin areas, given an actual or simulated wildland fire incident, so that the opinion regarding origin is supported by the data, facts, and evidence.* (OSFM) (CTS 6-3)

Evaluator Signature: _____ Date Verified: _____

- 23. Assist with identifying the ignition source and cause of a wildland fire, given an actual or simulated wildland fire scene, so that what brought the ignition source and materials together is determined.* (OSFM) (CTS 6-4)

Evaluator Signature: _____ Date Verified: _____

- 24. Assist with locating, photographing, documenting, and protecting wildland fire evidence, given an actual or simulated wildland fire scene so that evidence is properly identified, preserved, collected, packaged, and stored for use in testing, legal, or other proceedings and examinations.* (OSFM) (CTS 6-5)

Evaluator Signature: _____ Date Verified: _____

* Successful completion of FI-210 - Wildland Fire Origin and Cause Determination (NWCG) meets the requirements for this JPR.

FI-210 - Wildland Fire Origin and Cause Determination (NWCG)

Evaluator Signature: _____ Date Verified: _____

Post-Incident Investigation

25. 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. (NFPA 1033: 4.6.1) (CTS 7-1)

Evaluator Signature: _____ Date Verified: _____

26. 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. (NFPA 1033: 4.6.2) (CTS 7-2)

Evaluator Signature: _____ Date Verified: _____

27. 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. (NFPA 1033: 4.6.3) (CTS 7-3)

Evaluator Signature: _____ Date Verified: _____

28. Establish evidence as to means, motive, and opportunity, given an incendiary fire, so that the evidence is supported by documentation and meets the evidentiary requirements of the jurisdiction. (NFPA 1033: 4.6.4) (CTS 7-4)

Evaluator Signature: _____ Date Verified: _____

29. 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, scientific references, and evidence. (NFPA 1033: 4.6.5) (CTS 7-5)

Evaluator Signature: _____ Date Verified: _____

Presentations

30. Prepare a written report, given investigative findings, so that the report accurately reflects the facts, data, and scientific principles on which the investigator relied; clearly identifies and expresses the investigator's opinions and conclusions; and contains the reasoning by which each opinion or conclusion was reached in order to meet the requirements of the intended audience(s). (NFPA 1033: 4.7.1) (CTS 8-1)

Evaluator Signature: _____ Date Verified: _____

- 31. 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. (NFPA 1033: 4.7.2) (CTS 8-2)

Evaluator Signature: _____ Date Verified: _____

- 32. Testify during legal proceedings, given investigative findings, so that the testimony accurately reflects the facts, data, and scientific principles on which the investigator relied; clearly identifies and expresses the investigator’s opinions and conclusions; and contains the reasoning by which each opinion or conclusion was reached.** (NFPA 1033: 4.7.3) (CTS 8-3)

Evaluator Signature: _____ Date Verified: _____

** Successful completion of one (1) of the following four (4) classes can meet this JPR:

Expert Witness Testimony (CCAI)

Evaluator Signature: _____ Date Verified: _____

Expert Witness Courtroom Testimony (IAAI)

Evaluator Signature: _____ Date Verified: _____

Interview Interrogation Techniques and Courtroom Testimony or Fire Investigation: Case Preparation and Testimony (NFA)

Evaluator Signature: _____ Date Verified: _____

Arson Origin and Cause/Courtroom Testimony (Bureau of Alcohol, Tobacco, and Explosives, in-person only course, #ARSON-CS-0002)

Evaluator Signature: _____ Date Verified: _____

Completion Requirements

The following requirements must be completed prior to submitting this task book.

Experience

The candidate meets all the following experience requirements.

- A minimum of two (2) years’ full-time paid experience with a recognized California fire or law enforcement agency
- Investigate 25 fires as the lead investigator **No Investigation shall be accepted prior to the completion of Fire Investigation 1A (2017) or (2022)**

Full-time Paid Experience

Agency	Experience	Start Date	End Date

Fires Investigated as Lead Investigator

#	Type of Fire	Incident/Report #	Date	Location	Evaluator Verification
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					

12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Include documentation to verify experience requirements when you submit your instructor task book unless verification is already documented in your SFT User Portal.

Position

The candidate meets the qualifications for this level of certification. The position requirement is met when the applicant fulfills the role of the specific duties as defined by the Fire Chief.

Updates

The candidate has completed and enclosed all updates to this certification task book released by State Fire Training since its initial publication.

Number of enclosed updates: _____

Completion Timeframe

The candidate has completed all requirements documented in this certification task book within five years of its initiation date.

Initiation Date (see Fire Chief signature under **Initiation Requirements**): _____

Draft

Review and Approval

Candidate

Candidate (please print): _____

I, the undersigned, am the person applying for certification. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements documented herein is true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documentation may be cause for rejection or revocation.

Signature: _____ Date: _____

Fire Chief

Candidate's Fire Chief:

(please print): _____

I, the undersigned, am the person authorized to verify the candidate's qualifications for certification. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements documented herein are true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documentation may be cause for rejection.

Signature: _____ Date: _____

Certification Task Book Update 22-1

Justification

In 2023, State Fire Training updated the Fire Investigator certification to align with NFPA 1033: Standard of Professional Qualification for Fire Investigator (2022).

At that time, SFT incorporated an additional wildland fire investigation component into the curriculum. Wildland fires are prevalent in California, and all fire investigators working in the state need to be able to assist with wildland fire investigations.

Revision/Update

1. NFPA made minor language revisions to the text that does not impact job performance requirement (JPR) intent.
 - No updates required.
2. SFT added four wildland-specific standards under OSFM authority.
 - If you have already completed and validated these JPRs through a previous task book, show that task book to your evaluator and have them sign off on the appropriate JPRs below.
 - If you have not completed and validated these JPRs through a previous task book, complete and validate them through this update.

Additional Requirements

Wildland Fire Investigation

1. Assist with documenting a wildland fire scene, given a simulated or actual wildland fire incident, to accurately represent the scene and identify evidence, pertinent contents, significant patterns, and area(s) or point(s) of origin.* (OSFM) (CTS 6-2)

Evaluator Signature: _____ Date Verified: _____

2. Assist with identifying the origin areas, given an actual or simulated wildland fire incident, so that the opinion regarding origin is supported by the data, facts, and evidence.* (OSFM) (CTS 6-3)

Evaluator Signature: _____ Date Verified: _____

3. Assist with identifying the ignition source and cause of a wildland fire, given an actual or simulated wildland fire scene, so that what brought the ignition source and materials together is determined.* (OSFM) (CTS 6-4)

Evaluator Signature: _____ Date Verified: _____

4. Assist with locating, photographing, documenting, and protecting wildland fire evidence, given an actual or simulated wildland fire scene so that evidence is properly identified, preserved, collected, packaged, and stored for use in testing, legal, or other proceedings and examinations.* (OSFM) (CTS 6-5)

Evaluator Signature: _____ Date Verified: _____

* Successful completion of FI-210 - Wildland Fire Origin and Cause Determination (NWCG) meets the requirements for this JPR.

FI-210 - Wildland Fire Origin and Cause Determination (NWCG)

Evaluator Signature: _____ Date Verified: _____

Fire Chief

Candidate's Fire Chief*:

(please print): _____

I, the undersigned, am the person authorized to verify the candidate's qualifications for certification. I hereby certify under penalty of perjury under the laws of the State of California, that the completion of all requirements documented herein are true in every respect. I understand that misstatements, omissions of material facts, or falsification of information or documentation may be cause for rejection.

Signature: _____ Date: _____

* A police chief, sheriff, or equivalent may partner with a fire chief or their authorized designee already on file with SFT to initiate (when applicable) and then review and confirm the completion of a candidate's certification task book. The fire chief or their authorized designee must be the signatory.



Fire Investigator (2022) Interim Procedures

Issued: **Month** 2024

Procedure Changes

Edition: May 2020 edition of the State Fire Training Procedures Manual

Effective Date: September 1, 2024 (anticipated)

Section Changes: Modify and update the following sections:

- 6.7.13: INVESTIGATION INSTRUCTOR
- 7.8: INVESTIGATION
- 9.1.2: APPROVED COURSES

Justification: Following approval by the State Board of Fire Services (SBFS), the new Fire Investigator (2022) will go into effect on August 1, 2024. The new curriculum provides directive for instructor qualifications, certification, and course equivalency.

SFT Contact: SFT Staff assigned to instructor registration, certification, and course equivalency.

Note: All new text appears in underline. All deleted text appears in ~~strikeout~~.

6.7.13: INVESTIGATION INSTRUCTOR

6.7.13.1: Eligible Courses

Table 6.7.13.1: Investigation Instructor Eligible Courses

CFSTES Courses	FSTEP Courses
<ul style="list-style-type: none">• Fire Investigation 1A: Basic Fire Investigation (201722)• Fire Investigation 1B: Evidence, and Documentation, Interviews, and Wildland (201722)• Fire Investigation 1C: Preparation for Legal Proceedings (201722)	<ul style="list-style-type: none">• None

6.7.13.2: General Qualifications

- A. A Registered **Primary** Instructor for a California Fire Service Training and Education System (CFSTES) or Fire Service Training and Education Program (FSTEP) Fire Investigation course shall meet the qualifications required of all State Fire Training (SFT) Registered **Primary** Instructors.
1. See **6.2.1: Qualifications.**
- B. **An Instructor registered to teach Fire Investigation 1A: Fire Origin Cause and Determination (2000), Fire Investigation 1B: Techniques of Fire Investigation (2011), Fire Investigation 2A: Criminal and Legal Procedures(1989), or Fire Investigation 2B: Field Case Studies (1989) is authorized to teach Fire Investigation 1A (2017), 1B (2017), and 1C (2017).**
- C. **A Registered Instructor for a California Fire Service Training and Education System (CFSTES) or Fire Service Training and Education Program (FSTEP) Fire Investigation course shall be an OSFM-certified Fire Investigator.**

6.7.13.3: Course Work

- A. **SFT will authorize Fire Investigator (2017) Registered Instructors who complete the following courses to teach Fire Investigator 1A (2022):**
- Fire Instructor 1A: Basic Fire Investigation (2017)
 - Basic Electricity (CFITrainer.net)
 - Ethics and the Fire Investigator (CFITrainer.net)
 - Fire Instructor (2022) Instructor Update (virtual)
- B. **SFT will authorize Fire Investigator (2017) Registered Instructors who complete the following courses to teach Fire Investigator 1B (2022):**
- **Fire Investigator 1B: Evidence and Documentation (2017)**

- FI-110: Wildland Fire Observations and Origin Scene Protection for First Responders (NWCG) or Wildland Fires Investigation (CFITrainer.net)
- Fundamentals of Interviewing (CFITrainer.net)
- Introduction to Evidence (CFITrainer.net)
- Fire Instructor (2022) Instructor Update (virtual)

C. SFT will authorize Fire Investigator (2017) Registered Instructors who complete the following courses to teach Fire Investigator 1 (2022):

- Fire Investigator 1C: Preparation for Legal Proceedings (2017)
- Motive, Means, Opportunity: Determining Responsibility in an Arson Case (CFITrainer.net)
- Fire Instructor (2022) Instructor Update (virtual)

6.7.13.43: Professional Experience

A. A Registered **Primary** Instructor for a CFESTES of FSTEP Fire Investigation course shall meet the professional experience qualifications listed below.

1. Performing in an “acting” capacity does not qualify.

Table 6.7.13.3: Investigation Instructor Professional Experience

FSTEP Course	Experience
<ul style="list-style-type: none"> • Fire Investigation 1A (201722) • Fire Investigation 1B (201722) • Fire Investigation 1C (201722) 	<ul style="list-style-type: none"> • Held the rank of a position responsible for of Fire Investigator within fire investigation for three years in a recognized fire agency in California fire or law enforcement agency for a minimum of two years

7.8: INVESTIGATION

7.8.1: FIRE INVESTIGATOR (2017/22)

7.8.1.1: Overview

- A. Fire Investigator orion certification provides the knowledge and skills needed to determine fire origin, conduct scene documentation and evidence collection, develop an interview plan, and testify in legal proceedings for structure and wildland fires.
- B. Fire Investigator certification replaced Fire Investigator II and II, which retired on December 31, 2018.

7.8.1.2: History

- A. Established
 - June 1, 2017
- B. Updated
 - Month #, 202#

7.8.1.3: Prerequisites

- A. Not applicable
Completion of the following courses:
 - Basic Electricity (CFITrainer.net)
 - Ethics and the Fire Investigator (CFITrainer.net)
 - Introduction to Evidence (CFITrainer.net)
 - Motive, Means, and Opportunity (CFITrainer.net)
 - POST-certified PC 832 Arrest (POST)
 - POST-certified Interview and Interrogation (POST)
 - FI210 Wildland Fire Origin and Cause Determination (NWCG)

7.8.1.4: Education

- A. Fire Investigation 1A: Basic Fire Investigation (2017 or 2022)
- B. Fire Investigation 1B: Evidence, Documentation, Interviews, and Wildland (2022)
or
Fire Investigation 1B: Evidence and Documentation (2017) and FI-110: Wildland Fire Observations and Origin Scene Protection for First Responders (NWCG) and Fundamentals of Interviewing (CFTITrainer.net) and Introduction to Evidence (CFTITrainer.net)
or

Fire Investigator 1B: Evidence and Documentation (2017) and Wildland Fires Investigation (CFITrainer.net) and Fundamentals of Interviewing (CFITrainer.net) and Introduction to Evidence (CFITrainer.net)

C. Fire Investigation 1C: Preparation for Legal Proceedings (2017 or 2022)

D. PC832: Arrest (POST #80102)

- Must be completed within two years of applying for certification unless candidate is employed as a peace officer

7.8.1.5: Certification Exam

A. Not applicable

7.8.1.6: Certification Task Book

A. Fire Investigator (2022) Certification Task Book

7.8.1.7: Experience

A. A minimum of two (2) years' full-time paid experience with a recognized California fire or law enforcement agency

Fire Service or Law Enforcement (one of the following three options)

1. Have a minimum of two years' full time paid experience in a recognized fire agency in California with the primary duty as a Fire Investigator

2. Have a minimum of four years' volunteer or part time paid experience in a recognized fire agency in California with the primary responsibility as a Fire Investigator

3. Have a combination of full time paid and part time paid or volunteer experience equal to two years' full time paid experience in a recognized fire agency in California with the primary duty as a Fire Investigator

i. Part-time paid or volunteer to full time paid ratio is 2:1 (for example, two months' part time paid or volunteer = 1 month full time paid)

B. Investigate 250 fires, 10 of which must be structure fires, as the primary lead investigator, and develop complete fire investigation reports (verified by task book and Chief's, Sheriff's, or equivalent's letter)

7.8.1.8: Position

A. Appointed to the position of Fire Investigator Meets the qualifications for this level of certification, fulfilling the role of the specific duties as defined by the Fire Chief

7.8.1.9: Application

A. See **7.2.4: Application Process – With a Certification Task Book.**

B. Supporting documentation:

1. Copies of all prerequisite course completion verification
2. Copies of course completion certificates for each SFT education requirement

7.8.1.10: Maintenance

A. Not applicable

Draft

9.1.2: APPROVED COURSES

- A. In Table 9.1.2: SFT Approved Courses (following), SFT has identified the following SFT courses as either equivalent (E) or reciprocal (R).
- B. See **Acronym Glossary** for a complete list of provider acronyms.

Table 9.1.2: SFT Approved Courses

SFT Course	E/R	Approved Equivalent	Provider	Effective Dates
Fire Investigation 1A	E	Fire/Arson Investigation (R811) Fire Investigation: Essentials (R0772)	NFA (6-day course) FEMA (10-day course)	
Fire Investigation 1B	E	Fire/Arson Investigation (R206) Fire Investigation: Essentials (R0772)	NFA FEMA (10-day course)	
Fire Investigation 1C	E	Interviewing-Interrogation Techniques and Courtroom Testimony (R208) Fire Investigation: Case Preparation and Testimony (N0790)	NFA (10-day course) FEMA (6-day course)	