

Fire Investigator

Certification Procedure Guide



This Certification Procedure Guide reflects the requirements of:

**NFPA 1033: Standard for Fire Investigator Professional Qualifications,
2022 Edition**

NFPA 921: Guide for Fire and Explosion Investigations, 2021 Edition

Introduction to Fire Investigator Certification

FSTB Certification website: <https://dps.iowa.gov/divisions/state-fire-marshal/fire-service-training/certification-accreditation>

Certification Program email: fstbcert@dps.state.ia.us

FSTB Certification phone number: 515-727-3447

Candidates wishing to attain national certification for Fire Investigator through the Iowa Fire Service Training Bureau Certification System must start the process by submitting an Examination Registration Form along with the Registration Fee of \$50, due at the time of registration.

The form is available on the certification page of the FSTB website (link provided above) or you can click on the following link to go directly to the form:

[Written Examination Registration Form](#)

Each Registration Form is updated regularly to reflect the current schedule of examination locations and dates. Candidates are given twelve (12) months to complete each certification process. This time limit starts when the candidate takes their FIRST examination in this level.

Starting July 1, 2019 the initial Registration Fee of \$50 allows the candidate one (1) attempt to pass the written examination. If the candidate fails the written exam, they are charged \$50 to retake **EACH** examination again.

If the twelve (12) month time limit expires and the candidate has not successfully completed all the requirements for this certification process, the candidate will have to restart the process. All information and documentation relating to the previous certification attempt will be removed from the FSTB database.

Projects must be submitted and approved within the twelve (12) months from when the candidate starts the certification process for this level.

Fire Investigator - Certification Requirements

Prerequisites:

Candidates pursuing certification at the Fire Investigator level must meet the following conditions:

1. Be a current member of a fire, rescue, or law enforcement organization within the State of Iowa or enrolled in a Fire Science or Criminal Justice program within the Iowa College System. All candidates pursuing certification shall be at least 18 years of age.
2. Primary job role as a Fire Investigator and/or direct involvement in the fire investigation process within the candidate's jurisdiction.
3. Formal course of instruction attendance of either the FSTB 2-week Basic Fire Investigation course or an NFA Basic Fire Investigation course. Course attendance MUST have been within the past 2 years.

An official picture ID (e.g., driver's license, state-issued identification card, military ID, etc.) must be presented for admittance to ANY written and practical skills examination.

Written Examination:

The Fire Investigator written examination is based on Job Performance Requirements listed in NFPA 1033 - Standard for Fire Investigator Professional Qualifications, 2022 edition.

- The Fire Investigator written examination contains 100 multiple choice and/or true-false questions.
- Candidates are required to score a minimum of 70% on the written examination. Candidates who fail the written examination are responsible for notifying the FSTB of their desire to retake the written examination by registering for another examination site and paying another registration fee of \$50. Candidates may not take the written examination more than once per day.
- The below chart shows the maximum time allowed for the written examinations based on the number of questions on the examination.

Number of Questions	Maximum Time Allowed
25	30 Minutes
50	60 Minutes
75	90 Minutes
100	120 Minutes

Practical Skills Evaluation:

The Fire Investigator practical skills are based on Job Performance Requirements listed in NFPA 1033 - Standard for Professional Qualifications for Fire Investigator, 2022 edition.

1. At the conclusion of the FSTB 2-week Basic Fire Investigation Course, candidates will be evaluated and graded on the practical skills listed on the included Practical Skills Evaluation Sheets, **(with the exception of Skill 4.7.1., which will be evaluated as a Project Assignment described below)**.

Project:

The Fire Investigator Project is based on Job Performance Requirements listed in NFPA 1033 - Standard for Professional Qualifications for Fire Investigator, 2022 edition.

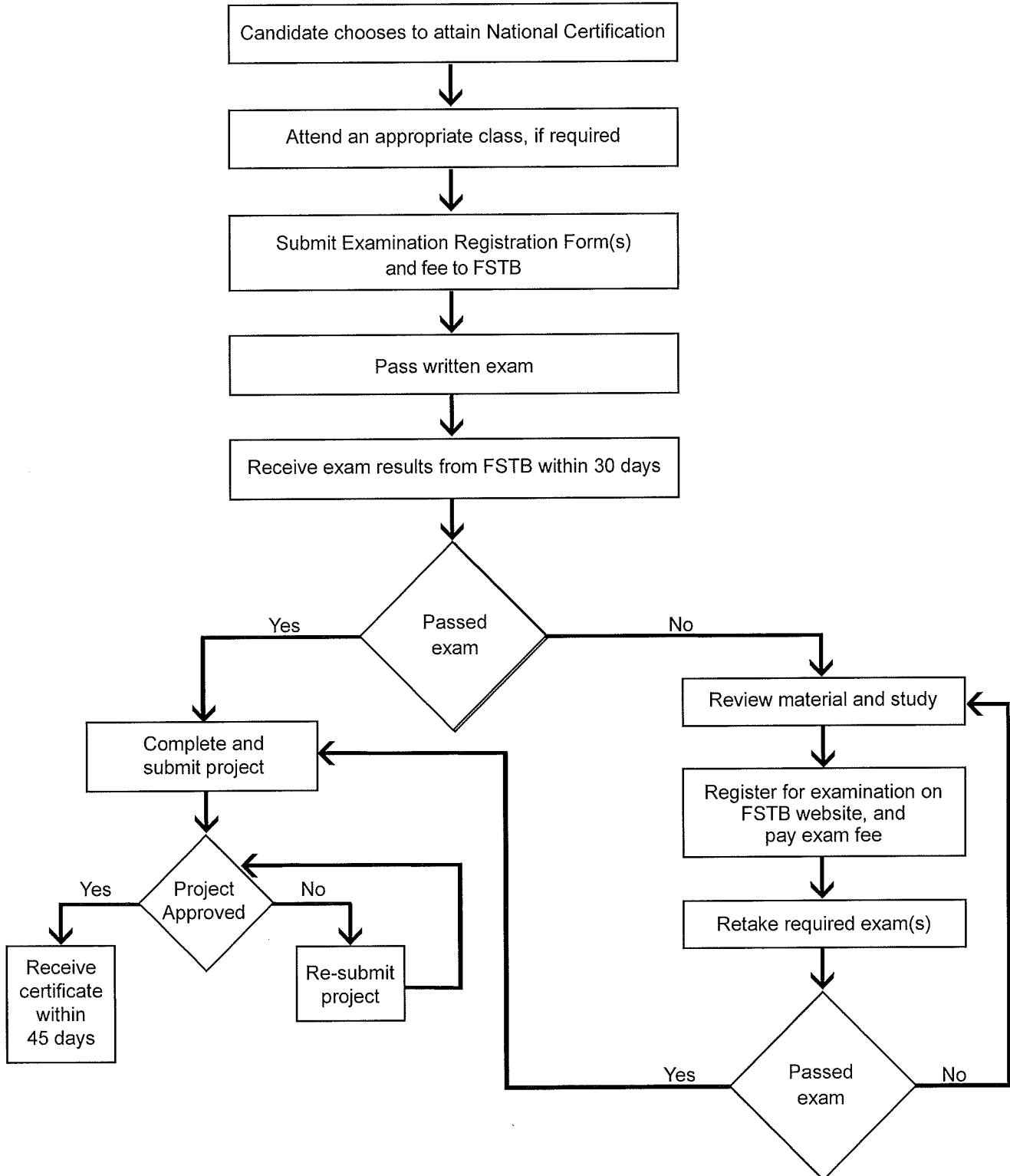
1. This Project is a comprehensive assignment that involves investigation of two fire incidents within the candidate's own jurisdiction. The first fire incident investigation must be determined as accidental in nature. The second fire incident must be determined as incendiary in nature. The candidate will be required to complete a thorough investigation and documentation of both incidents. The Fire Investigator Project will be reviewed and graded by a designated State Fire Marshal Investigator, utilizing the included Scoring Matrix. Items to also include with the Fire Investigator Project submission are a photo log, scene diagram and at least 5 photos of the investigation. Instructions and associated documents associated with the Fire Investigator Project are located at the end of this Procedures Guide.
2. Along with **EACH** of the two (2) fire investigation reports, the included Fire Investigator Project Affidavit **MUST** be completed and signed by either the candidate's Fire Chief, Fire Marshal or Lead Investigator.

References / Textbooks:

- IFSTA, *Fire Investigator*, 3^d Edition, 2022
- Jones & Bartlett, *Fire Investigator, Principles and Practice to NFPA 921 & 1033*, 6th Edition, 2023

Please keep a copy of all your certification documentation for your own records.

Certification Flow Chart for Fire Investigator



You have twelve (12) months to complete this process or you start over.

Fire Investigator Recertification:

Once a candidate has received their certification as a Fire Investigator, the certification is valid for 3 years from the date of issuance. If recertification is desired, the following procedures **MUST** be completed and submitted to the FSTB **PRIOR** to the certification's expiration date. If recertification is not completed prior to the expiration date of the current certification, the certification will be removed from the individual's permanent record in the FSTB Certification database and reported to the accrediting bodies as being revoked.

RECERTIFICATION REQUIREMENTS:

1. Complete the Fire Investigator Recertification Form, located on the Certification page of the FSTB website (under the Fire Investigator level at the bottom of the page).
2. Provide written documentation of 30 hours of UNTESTED (informal) training as a student or instructor, or any combination in fire investigation related courses or seminars. This can be in the form of attendance certificates, such as from the Iowa Chapter of the International Association of Arson Investigators (IAAI) annual conferences, or any other conference dealing with fire/arson investigation;
OR
3. Provide written documentation of 15 hours of TESTED (formal) training (e.g. CFITrainer.net course completion certificates);
AND
4. Submit a letter from the candidate's supervisor listing the candidate's current job description and attesting to the fact that the primary duty of the candidate is fire investigation. The supervisor shall be experienced in fire investigation as well; will review each of the candidate's reports and shall verify the number of fires that the candidate has investigated during the past 3 year period. A minimum of 10 fires, regardless of the determination, have to have been investigated.

AS mentioned above, if the candidate certified as a Fire Investigator chooses NOT to recertify or does not submit the required documentation for recertification prior to the expiration date of their certification; their certification as a Fire Investigator will be removed from the Iowa Certification database. The IFSAC and ProBoard® will be notified to remove the associated seal numbers from their database registries. In order to regain this certification, the candidate would need to successfully complete the required Fire Investigator certification process mentioned previously in this Guide. If the Fire Investigator course has been taken within the past 2 years, the candidate is eligible to register to take the written examination and then complete the associated Fire Investigator Project as described in the Guide.



Use search techniques that incorporate documentation		
Correctly determines the fire cause		
Properly preserves all evidence		
4.2.7 Reconstruct the area of origin, given standard and, if needed, special equipment and tools as well as sufficient personnel, so that all protected areas and fire patterns are identified and correlated to contents or structural remains, items potentially critical to cause determination and photo documentation are returned to their pre-fire location, and the area(s) or point(s) of origin is discovered.		
Examine all materials to determine the effects of fire, identify and distinguish among different types of fire-damaged contents, and return materials to their original position using protected areas and fire patterns		
4.2.8 Inspect the performance of building systems, including detection, suppression, HVAC, utilities, and building compartmentation, given standard and special equipment and tools, so that a determination can be made as to the need for expert resources, an operating system's impact on fire growth and spread is considered in identifying origin areas, defeated and/or failed systems are identified, and the system's potential as a fire cause is recognized.		
Determine the system's operation and its effect on the fire		
Identify alterations to and failure indicators of building systems		
Evaluate the impact of suppression efforts on building systems		
4.2.9 Discriminate the effects of explosions from other types of damage, given standard equipment and tools, so that an explosion is identified and its evidence is preserved.		
Identify explosive effects on glass, walls, foundations, and other building materials		
Distinguish between low- and high-order explosion effects		
Analyze damage to document the blast zone and origin		
4.3 Documenting the Scene		
4.3.1 Diagram the scene, given standard tools and equipment, so that the scene is accurately represented and evidence, pertinent contents, significant patterns, and area(s) or point(s) of origin are identified.		
Sketch the scene noting any significant patterns and area of origin		
Evidence recognition and accurately represents any potential evidence locations		
4.4 Evidence Collection/Preservation		
4.4.1 Utilize proper procedures for managing victims and fatalities, given a protocol and appropriate personnel, so that all evidence is discovered and preserved and the protocol procedures are followed.		
Observational skills and the ability to apply protocols to given situations		
Secures area around victim		
Discovers and preserves all evidence		



Examines area around and under victim		
4.4.2 Locate, document, collect, label, package, and store evidence, given standard or special tools and equipment and evidence collection materials, so that it is properly identified, preserved, collected, packaged, and stored for use in testing, legal, or other proceedings and examinations, ensuring cross-contamination and investigator-inflicted damage to evidentiary items is avoided and the chain of custody is established.		
Ability to recognize different types of evidence and determine whether evidence is critical to the investigation		
Collects and packages evidence to avoid contamination		
4.4.3 Select evidence for analysis, given all information from the investigation, so that items for analysis support specific investigation needs.		
Evaluate the fire incident to determine forensic, engineering, or laboratory needs		
Correctly determines the need for evidence collection and selects appropriate evidence to support cause determination		
4.4.4 Maintain a chain of custody, given standard investigative tools, marking tools, and evidence tags or logs, so that written documentation exists for each piece of evidence and evidence is secured.		
Executed chain of custody procedures by accurately completing a chain of custody form		
4.4.5 Dispose of evidence, given jurisdictional or agency regulations and file information, so that the disposal is timely, safely conducted, and in compliance with jurisdictional or agency requirements.		
Determines if disposal is properly authorized		
Ensures disposal is timely and safely conducted and properly documented		
4.5 Interview.		
4.5.1 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.		
Demonstrate planning skills which reflects a strategy to determine the fire cause		
Develop ten (10) focused questions for specific individuals to be interviewed		
Evaluate of existing file data to help develop questions and fill investigative gaps		
Listing of the ten (10) interview questions shall be submitted		
4.5.2 Conduct interviews, given incident information, so that pertinent information is obtained, follow-up questions are asked, responses to all questions are elicited, and the response to each question is documented accurately.		
Determine the system's operation and its effect on the fire		
Interpret verbal and nonverbal communications		
Exhibit strong listening skills and asks follow-up question		



<p>4.5.3 Evaluate interview information, given interview transcripts or notes and incident data, so that all interview data is individually analyzed and correlated with all other interviews, corroborative and conflictive information is documented, and new leads are developed.</p>		
<p>Demonstrate data correlation skills and the ability to evaluate source information</p>		
<p>Properly analyze all interview data</p>		
<p>Correlate interview data with other interviews</p>		
<p>4.6 Post-Incident Investigation 4.6.1 Gather reports and records, given no special tools, equipment, or materials, so that all gathered documents are applicable to the investigation, complete, and authentic; the chain of custody is maintained; and the material is admissible in a legal proceeding.</p>		
<p>Identify the reports and documents necessary for the investigation, implement the chain of custody, and organizational skills</p>		
<p>Ensures that documents are appropriate to the investigation</p>		
<p>Implements and maintains the chain of custody for the gathered documents</p>		
<p>Takes precautions so that material is acceptable to the courts</p>		
<p>4.6.2 Evaluate the investigative file, given all available file information, so that areas for further investigation are identified, the relationship between gathered documents and information is interpreted, and corroborative evidence and information discrepancies are discovered.</p>		
<p>Demonstrates information assessment, correlation, and organizational skills</p>		
<p>Identifies areas for further investigation</p>		
<p>Interprets relationship between documents and information</p>		
<p>Identifies corroborative evidence and information discrepancies</p>		
<p>4.6.3 Coordinate expert resources, given the investigative file, reports, and documents, so that the expert's competencies are matched to the specific investigation needs, financial expenditures are justified, and utilization clearly furthers the investigative goals of determining cause or affixing responsibility.</p>		
<p>Apply expert resources to further the investigation by networking with other investigators to identify experts</p>		
<p>Question experts relative to their qualifications</p>		
<p>Develop a utilization plan for use of expert resources</p>		
<p>4.6.4 Establish evidence as to motive and/or opportunity, given an incendiary fire, so that the evidence is supported by documentation and meets the evidentiary requirements of the jurisdiction.</p>		
<p>Conduct financial analysis and records gathering and analysis</p>		
<p>Interview and interpret fire scene information and evidence for relationship to motive and/or opportunity</p>		



<p>4.6.5 Formulate an opinion concerning origin, cause, or responsibility for the fire, given all investigative findings, so that the opinion regarding origin, cause, or responsibility for a fire is supported by the data, facts, records, reports, documents, and evidence.</p>		
<p>Demonstrate analytical and assimilation skills</p>		
<p>Correctly formulates an opinion concerning the origin and cause of the fire</p>		
<p>4.7 Presentations</p> <p>4.7.1 Prepare two (2) written fire investigation reports, The first report shall be based on an investigation found to be accidental. The second report shall be based on an investigation found to be incendiary. Each report shall follow the template format from the provided “<i>Fire Investigation Scoring Matrix</i>”. These reports shall incorporate proper use of spelling and grammar. “These investigations will be conducted after the completion of the Basic Fire Investigator course and in the candidate’s own jurisdiction.”</p>		
<p>4.7.2 Prepare a 30-minute case presentation, given investigative findings, documentation, and a specific audience, so that the presentation accurately reflects the investigative findings, is concise, expresses the investigator’s opinion, contains facts and data that the investigator relies on in rendering an opinion, contains the reasoning of the investigator by which each opinion was reached, and meets the needs or requirements of the intended audience(s).</p>		
<p><i>Each presentation shall:</i></p>		
<p><i>Include a detailed description of the fire scene:</i></p> <ul style="list-style-type: none"> • Date of the fire and investigation 		
<ul style="list-style-type: none"> • Location of the fire 		
<ul style="list-style-type: none"> • Name of responding departments 		
<ul style="list-style-type: none"> • Name of the investigator 		
<ul style="list-style-type: none"> • Description of the involved property 		
<ul style="list-style-type: none"> • Evidence of fire travel 		
<ul style="list-style-type: none"> • Cause indicators 		
<ul style="list-style-type: none"> • Origin determination 		
<ul style="list-style-type: none"> • Fire cause determination (cause must be determined as incendiary or accidental from the scene examination) 		
<ul style="list-style-type: none"> • Any evidence collected 		
<p><i>Presentation must include photographs and a diagram of the scene showing:</i></p> <ul style="list-style-type: none"> • General floor plan 		
<ul style="list-style-type: none"> • Fire travel 		
<ul style="list-style-type: none"> • Location of fire cause indicators 		

Iowa Fire Investigator Certification
Fire Investigation Report (4.7)
Scoring Matrix (100 Points Total)

Must Obtain 80 Points (80%) to Pass

Fire investigation reports submitted for certification require investigating a fire of a substantial source. Such fires include vehicles, room and contents, garage, or a type of structure. Mailboxes, hay bales, vegetation, portable toilets, and similar types of smaller fires cannot be used for this project.

RECOGNIZE THE NEED and DEFINE THE PROBLEM (4.1.2)

I. Notification, Scene Arrival/Departure, and Need for Fire Investigation (2 Pts)

- a. Date and time notified
- b. Who notified and requested a fire investigator?
- c. General type of fire (structure, vehicle, vegetation, injuries, fatality, etc.)
- d. Address(s) of scene location(s)
- e. Date and time of scene arrival
- f. Date and time of scene departure
- g. Scene Security (4.2.1)
- h. Scene Safety Assessment (4.1.3)
- i. Coordinated investigation with Incident Command, Fire, Police, and other pertinent officials (4.6.3)
- j. Identify expert resources, if needed (4.1.4, 4.1.6)

COLLECTING THE DATA (4.1.2)

II. Weather conditions (1 Pt)

- a. Temperature
- b. Wind Speed / Direction
- c. Humidity
- d. Precipitation
- e. Lightning

III. Type of Structure or Vehicle Involved (2 Pts)

- a. Building Construction
- b. Residential vs Rural
- c. Ancillary Structures
- d. Vehicles (Year, Make, Model)
- e. VIN and License Plate Numbers of Vehicles Involved

IV. Fire Suppression Activities (3 pts)

- a. Fire Departments on Scene
- b. First Arriving Unit Suppression Strategy (Offensive/Defensive)
- c. Rescue/Recovery of Victims
- d. Ventilation Tactics
- e. Salvage/Overhaul Activities

V. Interviews (4.5) (12 pts)

- a. Contact Information of Owner/Renter of Property or Vehicle
- b. Insurance Coverage
- c. Medical and Social History (Owners/Renters/Victims)
- d. Smoking History
- e. Criminal History
- f. Details of Daily Events Leading Up to the Discovery Fire (timeline)

VI. Fire Scene Examination (4.2) (30 pts)

- a. External Scene Exam (4.2.2) 15 pts
 - i. Permissions (Owner Consent vs. Criminal Search Warrant) (4.1.5)
 - ii. Systematic Approach (Least Damage to Most Damage)
 - iii. Utilities (Natural Gas, Propane, Electric Panels/Wires, Telephone, Cable, Etc.)
 - iv. Evidence (Non-FD Forced Entry, Gas Cans, Footprints)
- b. Internal Scene Exam (4.2.3) 15 pts
 - i. Systematic Approach (Top to Bottom, Least Damage to Most Damage)
 - ii. Utilities (Natural Gas, Propane, Electric Panel/Wires, Furnace, Water Heater) (4.2.8)
 - iii. Appliances (4.2.8)
 - iv. Cleanliness
 - v. Interior Furnishings (Present or Absent,
 - vi. Evidence (Gas Cans, Non-FD Forced Entry, etc.)
 - vii. Arc Mapping in Structure Fires

VII. Evidence Collection (4.4.1, 4.4.2) (10 Pts)

- a. Items Collected?
- b. Location of Items Collected?
- c. How Packaged?
- d. Date/Time/ and Name of Collector
- e. Chain of Custody Form (4.4.4)
- f. Determine Lab Analysis for Evaluating Items (4.4.3)
- g. Disposal of Evidence (4.4.5)

ANALYZING THE DATA and DEVELOPING A HYPOTHESIS (4.1.2)

VIII. Origin Determination (4.2.4, 4.2.5) (10 pts)

- a. Area of Origin (identify all possible ignition sources in area and describe how each was ruled in/out)
- b. Point of Origin
- c. Use of Witness Statements
- d. Use of Fire Patterns (4.2.4)
- e. Use of Flow Paths
- f. Use of Evidence and Scene Re-creation (4.2.7)

TESTING THE HYPOTHESIS (4.1.2)

IX. Cause Determination (4.2.6) (10 Pts)

- a. Identify competent ignition source
- b. Identify fuel(s) first ignited
- c. Describe factors on how "a" and "b" were brought together
- d. Describe fire spread
- e. Test Hypothesis
- f. If hypothesis doesn't fit, start over and reevaluate or collect more data

SELECTING THE FINAL HYPOTHESIS (4.1.2)

X. Final Opinion as to Origin and Cause of Fire (4.6.1) (10 Pts)

- a. Summarize how the ignition source and fuel(s) first ignited came into contact with each to start the fire, in addition to witness statements, evidence, and other factors used to come to your conclusion.

XI. Scene Documentation (4.3.1) (5 pts)

- a. Scene Sketch (not to scale)
- b. Scene photographs (4.3.2)

XII. Spelling, Grammar, and Punctuation (4.3.3) (5 pts)

- a. Shows professionalism of investigator and the quality of the report with respect to its content

Please submit scene photographs (up to 5) for each of your two fire investigator certification reports. Submitted photographs should show overall scene, area/point of fire origin, key evidence, and burn patterns.

Please make sure to include negative corpus in your report. Also include information that may not have been a part of your scene to demonstrate your consideration of other factors going into your determination of origin and cause.

TOTAL POINTS AWARDED: _____ REVIEWED BY: _____

PASS / FAIL

DATE: _____

Comments:



Fire Service Training Bureau

Division of State Fire Marshal • Iowa Department of Public Safety

FIRE INVESTIGATOR PROJECT AFFIDAVIT

THE FIRE SERVICE TRAINING BUREAU OFFERS CERTIFICATION FOR FIRE INVESTIGATOR BASED UPON THE CURRENT NFPA 1033 STANDARD TITLED "STANDARD FOR PROFESSIONAL QUALIFICATIONS FOR FIRE INVESTIGATOR, 2022 EDITION." THIS AFFIDAVIT IS REQUIRED TO BE COMPLETED BY THE CERTIFICATION CANDIDATE'S FIRE CHIEF, FIRE MARSHAL OR LEAD INVESTIGATOR TO VERIFY COMPLIANCE WITH CERTIFICATION PROJECT REQUIREMENTS (TWO FIRE INVESTIGATIONS WITH WRITTEN REPORTS).

BY SIGNING THIS AFFIDAVIT, YOU ARE ENSURING THE FIRE INVESTIGATOR CERTIFICATION CANDIDATE HAS COMPLETED THE FOLLOWING REQUIRED TWENTY-FIVE (25) INVESTIGATIVE SKILLS AND THAT THE CANDIDATE HAS DONE SO INDEPENDENTLY.

<i>Fire Investigator Candidate Name:</i>			
<i>Fire Investigation Address:</i>			
<i>City</i>	<i>State</i>	<i>Zip</i>	<i>County</i>

No.	REQUIRED SKILLS TO BE EVALUATED DURING INVESTIGATIONS	SKILL MASTERED	
		Yes	No
1.	4.2.1 Secure the fire ground		
2.	4.2.2 Conduct an exterior survey		
3.	4.2.3 Conduct an interior survey		
4.	4.2.4 Interpret fire patterns		
5.	4.2.5 Interpret and analyze fire patterns		
6.	4.2.6 Examine and remove fire debris		
7.	4.2.7 Reconstruct the area of origin		
8.	4.2.8 Inspect the performance of building systems		
9.	4.2.9 Discriminate the effects of explosions from other types of damage		
10.	4.3.1 Diagram the scene		
11.	4.4.1 Utilize proper procedures for managing victims and fatalities		
12.	4.4.2 Locate, document, collect, label, package, and store evidence		
13.	4.4.3 Select evidence for analysis		



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14.	4.4.4 Maintain a chain of custody		
15.	4.4.5 Dispose of evidence		
16.	4.5.1 Develop an interview plan		
17.	4.5.2 Conduct interviews		
18.	4.5.3 Evaluate interview information		
19.	4.6.1 Gather reports and records		
20.	4.6.2 Evaluate the investigative file		
21.	4.6.3 Coordinate expert resources		
22.	4.6.4 Establish evidence as to motive and/or opportunity		
23.	4.6.5 Formulate an opinion concerning origin		
24.	4.7.1 Prepare a written report		
25.	4.7.2 Express investigative findings verbally		

By my signature below on this Affidavit, I attest and verify that the above named candidate has competently performed all of the above listed skills during the course of their investigations.

Print Name: _____ Title: _____

Signature: _____ Date: _____

Type of Investigation: Accidental Incendiary