Advanced Fire Incident Origin and Cause Investigation Training Course

20 – 24 June 2027
Johannesburg

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Training Center

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Advanced Fire Incident Origin and Cause Investigation Training Course

Ref: 1353_200012 **Date:** 20 – 24 June 2027 **Location:** Johannesburg **Fees:** 4500 Euro

Overview

Advanced Fire Incident Origin and Cause Investigation Training Course is a one-week advanced course for fire safety, HSE, emergency response, security, facilities, insurance, and operations personnel who leave with a Fire Incident Investigation Case File. Participants apply scene safety, scientific investigation, fire-pattern evaluation, evidence control, interviews, hypothesis testing, and reporting. The course addresses premature conclusions by linking observations to testable explanations and documented findings. Agile Leaders Training Center presents fire incident origin and cause investigation through structured scene evidence.

Who Should Attend

- Functions responsible for fire safety investigations and incident assurance
- Teams responsible for emergency response observations and scene preservation
- Personnel responsible for HSE, security, facilities, and operational investigations
- Functions responsible for insurance, loss review, and evidence documentation
- Technical teams responsible for fire protection, electrical, or process evidence

The course assumes participants handle incident information, scenes, interviews, or evidence and leaves out laboratory qualification, legal authority, and investigator certification.

Departments and Industries

The course supports departments and industries that investigate fires, preserve scene information, or act on origin-and-cause findings.

- Fire safety, emergency response, HSE, and security functions
- Manufacturing, chemicals, energy, and utilities operations
- Facilities, property, hospitality, and transportation operations
- Insurance, loss control, claims, and technical assurance teams
- Healthcare, warehousing, laboratories, and data-center operations

Learning Objectives

By the end of this course, participants will be able to:

- Apply scene safety and evidence-preservation controls
- Analyze fire dynamics and fire-pattern limitations
- Build an origin-area examination record
- Evaluate physical evidence and witness information
- Compare hypotheses using the scientific method
- Build a Fire Incident Investigation Case File

Course Agenda

Day 1: Scene Safety and Investigation Structure

- Fire Investigation Role and Authority Boundary Matrix
- Scene Hazard Assessment and Entry Control Plan
- First Responder Observation Capture Form
- Scene Preservation and Access Control Log
- NFPA 921 Scientific Method Investigation Map

Day 2: Fire Dynamics and Origin Analysis

- Fire Growth and Ventilation Timeline
- Heat Transfer and Fuel Package Analysis
- Flashover and Post-Flashover Indicator Review
- Fire Pattern Reliability Evaluation Checklist
- Area of Origin Hypothesis Worksheet

Day 3: Scene Examination and Evidence

- Systematic Scene Examination Route Plan
- Photography Sketch and Measurement Record
- Physical Evidence Recognition and Collection Log
- Evidence Packaging and Chain-of-Custody Form
- Electrical and Ignition Source Examination Matrix

Day 4: Interviews Hypotheses and Reporting

- Witness Interview Planning and Timeline Method
- Observation Testimony and Physical Evidence Comparison
- Competing Hypothesis Testing Matrix
- Origin and Cause Classification Decision Record
- Fire Investigation Findings and Report Structure

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Day 5: Fire Investigation Case Practice

- Exercise: Establish Scene Safety and Preservation Controls
- Exercise: Evaluate Fire Patterns and Origin Areas
- Exercise: Reconcile Witness Accounts with Physical Evidence
- Exercise: Test Competing Origin and Cause Hypotheses
- Capstone Exercise: Fire Incident Investigation Case File

Practical Exercises

The course uses suggested activities from industrial, commercial, facilities, and transportation fire scenarios.

- Suggested activity: build a scene entry, hazard, access, and preservation record from an initial-response scenario.
- Suggested activity: evaluate fire patterns against ventilation, fuel, suppression, and flashover information.
- Suggested activity: compare witness timelines with photographs, sketches, measurements, and physical evidence.
- Suggested activity: assemble a Fire Incident Investigation Case File with tested hypotheses, findings, and follow-up actions.

FAQs

What is fire incident origin and cause investigation?

Fire incident origin and cause investigation is a systematic process for examining scene conditions, identifying the area of origin, evaluating ignition possibilities, testing hypotheses, and documenting conclusions supported by available evidence.

Who suits fire incident investigation training, and what does it assume?

Fire incident investigation training suits fire safety, HSE, response, security, facilities, insurance, and operations personnel and assumes experience handling incidents, observations, interviews, records, or physical evidence.

How does fire incident investigation training differ from general incident investigation?

Fire incident investigation training concentrates on fire dynamics, scene alteration, fire patterns, origin areas, ignition sources, and fire evidence; general incident investigation addresses a wider range of operational events and causal factors.

How are origin and cause hypotheses tested in fire investigation?

Origin and cause hypotheses are tested by comparing each explanation with scene observations, fire dynamics, patterns, witness information, physical evidence, and identified limitations, then rejecting explanations inconsistent with the evidence.

Why is evidence preservation important in fire incident investigation?

Evidence preservation protects the location, condition, identity, and handling history of items and records so investigators can evaluate findings, explain limitations, and support later technical or legal review.

Conclusion

The course connects scene safety, fire dynamics, origin analysis, evidence, interviews, hypothesis testing, and reporting. Participants take back a Fire Incident Investigation Case File containing scene records, evidence controls, analytical decisions, findings, and corrective-action follow-up. The case file changes how investigation conclusions remain traceable to observations and tested explanations.