Training Course on Incident Investigation and Root Cause Analysis (Advanced)

Professional Development Training Course Outline

Category	Oil and Gas	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Incident investigation and root cause analysis are critical components of a proactive safety management system. As workplace risks continue to evolve, organizations must adopt advanced methodologies that go beyond traditional investigation processes. Training Course on Incident Investigation & Root Cause Analysis (Advanced) is designed to equip safety professionals, compliance managers, and operational leaders with expert-level skills in identifying root causes, implementing corrective actions, and enhancing organizational safety culture through data-driven insights.

The course provides a blend of systematic approaches, analytical frameworks, and regulatory compliance standards aligned with industry best practices. By integrating real-world scenarios, case studies, and hands-on exercises, participants will develop a deep understanding of failure modes, risk assessment techniques, behavioral safety, and continuous improvement principles. This is your gateway to mastering advanced incident investigation tools such as TapRooT®, 5-Whys, Bowtie Analysis, and Fishbone Diagrams.

Programme Curriculum

Training Course on Incident Investigation & Root Cause Analysis (Advanced)

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Course Objectives

1. Understand the significance of incident investigation in proactive risk management.
2. Master root cause analysis techniques including 5-Whys, Fishbone, and Fault Tree Analysis.
3. Conduct systematic failure investigations using industry-recognized frameworks.
4. Improve regulatory compliance with OSHA, ISO 45001, and other global standards.
5. Build a culture of safety accountability and transparency.
6. Integrate data analytics and AI tools for incident tracking and prediction.
7. Identify human factors and behavioral safety issues contributing to incidents.
8. Implement corrective and preventive actions (CAPA) effectively.
9. Enhance skills in writing investigation reports for regulatory and internal use.
10. Learn how to conduct interviews and evidence collection professionally.
11. Use trend analysis and performance metrics to reduce recurring incidents.
12. Understand the role of leadership in incident response and root cause analysis.
13. Develop actionable safety improvement plans based on root cause findings.

Target Audiences

1. Health and Safety Managers
2. Operations Supervisors
3. Risk Management Officers
4. Compliance & Regulatory Professionals
5. Industrial Engineers
6. HSE Coordinators
7. Quality Assurance Managers
8. Safety Auditors and Inspectors

Course Duration: 10 days

Course Modules

Module 1: Introduction to Incident Investigation

- Definition and scope of incident investigation
- Legal and regulatory requirements

- Types of incidents and near-misses
- Investigation principles and ethics
- Key stages of the investigation process
- **Case Study:** Initial response to a chemical spill in a manufacturing plant

Module 2: Root Cause Analysis Fundamentals

- Understanding symptoms vs root causes
- RCA models: 5-Whys, Fishbone, Fault Tree
- Collecting quality data for analysis
- RCA limitations and pitfalls
- Implementing RCA in real-time
- **Case Study:** Repeated equipment failure in a food processing unit

Module 3: Evidence Collection Techniques

- Scene preservation techniques
- Interviewing witnesses professionally
- Document and physical evidence
- Digital forensics basics
- Use of evidence in root cause determination
- **Case Study:** Fall from height investigation in construction

Module 4: Human and Organizational Factors

- Human error classifications
- Behavioral-based safety (BBS)
- Organizational culture’s impact on safety
- Identifying system weaknesses
- Applying HFACS (Human Factors Analysis and Classification System)
- **Case Study:** Behavioral cause of a forklift incident

Module 5: Advanced RCA Tools & Techniques

- Bowtie Analysis
- Change Analysis
- Barrier Analysis
- Fault Tree Analysis (FTA)
- Causal Factor Charting
- **Case Study:** Explosion at a petrochemical site

Module 6: Using TapRooT® Effectively

- TapRooT process overview
- Software walkthrough and templates
- Building causal trees
- Creating corrective actions

- Reporting with TapRooT
- **Case Study:** Near-miss investigation using TapRooT in utilities

Module 7: Risk Assessment & Prioritization

- Risk matrices and heat maps
- Severity and probability scoring
- Prioritizing investigation outcomes
- Aligning with enterprise risk management (ERM)
- Integrating findings into safety systems
- **Case Study:** Process hazard analysis post-incident in a refinery

Module 8: Conducting Effective Interviews

- Preparing for interviews
- Open-ended vs close-ended questions
- Handling difficult witnesses
- Ensuring psychological safety
- Documenting responses properly
- **Case Study:** Interview management after an electrocution incident

Module 9: Writing Effective Investigation Reports

- Structuring a report: Executive summary to conclusions
- Writing factual and objective narratives
- Including visuals and diagrams
- Avoiding blame-focused language
- Legal sensitivity and confidentiality
- **Case Study:** Audit of a submitted incident report for OSHA compliance

Module 10: Regulatory Frameworks and Standards

- OSHA, ISO 45001, and local regulations
- Legal responsibilities in incident management
- Auditing and inspection preparedness
- Corrective action follow-up
- Document retention policies
- **Case Study:** Regulatory breach after a warehouse fire

Module 11: Implementing Corrective and Preventive Actions (CAPA)

- Understanding CAPA fundamentals
- Prioritizing actions based on risk
- Assigning responsibility and ownership
- Monitoring and follow-up
- Integrating CAPA into safety systems
- **Case Study:** CAPA failure in a chemical plant explosion

Module 12: Trend Analysis and Metrics

- Leading vs lagging indicators
- Data visualization tools
- Dashboards for incident trends
- Using KPIs in safety performance
- Continuous improvement using analytics
- **Case Study:** Dashboard redesign to prevent recurring warehouse accidents

Module 13: Digital Tools & AI in RCA

- Predictive analytics and machine learning
- Software for incident logging
- Integrating RCA tools into EHS platforms
- Real-time data collection
- Enhancing investigations with AI-driven insights
- **Case Study:** Using AI to identify repeated compressor failures

Module 14: Building a Safety Culture through RCA

- Leadership's role in safety
- Communicating RCA findings to teams
- Embedding accountability in culture
- Recognizing and rewarding reporting
- Psychological safety in reporting culture
- **Case Study:** Culture transformation program post-fatality

Module 15: Capstone: Integrated RCA Project

- Group incident investigation simulation
- Full investigation planning and execution
- Collaborative RCA presentation
- Peer and instructor feedback
- Lessons learned and final assessment
- **Case Study:** Integrated mock incident in logistics

Training Methodology

- Interactive lectures with expert facilitators
- Group-based case study simulations
- Hands-on exercises using real-life scenarios
- Digital tool demonstrations (TapRooT®, BowtieXP)
- Role-play interviews and evidence collection
- Individual and team-based performance assessments

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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