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COURSE BROCHURE

# Aviation Risk Assessment and Hazard Identification Training Course

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Registered in the United Kingdom and Saudi Arabia

# Aviation Risk Assessment and Hazard Identification Training Course

**Ref:** 2118_78031 **Date:** 25 – 29 April 2027 **Location:** Cairo **Fees:** 4000 GBP

Aviation Risk Assessment and Hazard Identification is a 1-week training course for safety officers and operational managers in flight, ground and airport operations, built around a live hazard log with bow-tie diagrams for the top operational risks. New routes, contracted ground handlers and fast schedule changes create hazards faster than annual reviews can catch them. The course is delivered by Jupiter Prime Training.

## Why Aviation Risk Assessment and Hazard Identification Matters Now

Three pressures shape hazard work in aviation today. Traffic recovery and fleet changes bring new aircraft types, stands and crew patterns into existing operations. Ground handling, fuelling and de-icing are often contracted, so hazards cross organisational lines and ownership blurs. Much occurrence data never reaches a risk decision. An operator that identifies hazards early can redesign a procedure before an event; one that relies on reports alone reacts after damage or injury. The course rests on the four components of a safety management system, applied at the level of the hazard and its controls.

## Who Gains Most from Aviation Risk Assessment and Hazard Identification

- Officers who run hazard reporting, investigation triage and the hazard log
- Line and ramp managers who own procedures where hazards arise
- Engineering and maintenance planners who assess risk in task and tooling changes
- Airside and terminal operations staff who approve works, stand changes and new equipment
- Project leads who introduce new routes, aircraft types or contractors

A station or base that sends its safety officer with two line managers gains most, since the log then has owners who built it.

## Aviation Risk Assessment and Hazard Identification Capabilities

Participants practise turning occurrence reports, observations and planned changes into scored hazards with named controls and owners.

- Apply structured hazard identification methods to a flight, ground or airside task — the procedure owner
- Calculate risk using probability and severity matrices with consistent definitions — the risk acceptance decision
- Build bow-tie diagrams linking threats, top events, consequences and barriers — the safety review meeting
- Assess the safety effect of an operational change before it goes live — the change sponsor
- Specify mitigation actions with owners, due dates and effectiveness checks — the line manager

- Maintain a hazard log that shows status, residual risk and review dates — the accountable manager

## Key Aviation Risk Assessment and Hazard Identification Terms

- Hazard — a condition or object with the potential to cause injury, damage or loss of the ability to perform a function.
- Top event — in a bow-tie, the moment control is lost, sitting between the threats and the consequences.
- Barrier — a physical, procedural or human control that stops a threat developing or limits a consequence.
- Residual risk — the risk that remains after mitigation, scored again with the same matrix.
- Hazard log — the register of identified hazards with their risk scores, controls, owners and review status.
- Safety assessment of change — a structured check of new hazards created by a change to equipment, procedures or organisation.

## Aviation Risk Assessment and Hazard Identification Day by Day

## Day 1: Where Aviation Hazards Come From

- Hazard Sources in Flight, Ground and Airside Tasks — Scoping the Review
- Reactive, Proactive and Predictive Identification — Choosing Data Streams
- Occurrence and Voluntary Reports — Extracting Hazards From Narratives
- Safety Risk Management Component — Placing Hazard Work in Context
- Contractor and Interface Hazards — Assigning Ownership Across Organisations

## Day 2: Identification Methods in Practice

- Task Analysis and Walk-Throughs — Finding Hazards in Turnaround Steps
- Structured What-If and Checklists — Testing Procedures Before Use
- Human Factors and Threat-Error Lenses — Seeing Crew and Ramp Error
- Line Observation and Ramp Inspections — Capturing Hazards Not Reported
- Hazard Statement Writing — Clear Cause, Condition and Consequence

## Day 3: Scoring and Visualising Risk

- Probability and Severity Definitions — Calibrating a Five-by-Five Matrix
- Risk Tolerability Regions — Deciding Acceptance, Mitigation or Stop
- Bow-Tie Construction — Threats, Top Event and Consequences Mapped
- Barrier Strength and Degradation Factors — Judging Control Reliability
- Scoring Bias and Group Calibration — Agreeing Scores Across Departments

## Day 4: Mitigation, Change and Hazard Log Upkeep

- Hierarchy of Controls for Aviation Tasks — Selecting Effective Mitigation
- Mitigation Tracking and Effectiveness Checks — Closing or Reopening Actions
- Safety Assessment of Operational Change — New Routes, Types and Stands
- Hazard Log Structure and Review Cycle — Keeping Entries Current
- Risk Escalation and Acceptance Authority — Who Signs Residual Risk

## Day 5: Practising the Hazard Log and Bow-Tie Set

- Hazard Identification on a De-Icing Scenario — Applying Day Two Methods
- Matrix Scoring of Group Hazards — Calibrating Across Participants
- Bow-Tie for a Runway Incursion Threat — Barrier Gaps Identified
- Change Assessment for a New Contracted Handler — Go or Hold
- Hazard Log and Bow-Tie Set — Final Entries, Owners and Reviews

## Applying Aviation Risk Assessment and Hazard Identification After the Course

- Run a walk-through hazard review on one turnaround or maintenance task and add the results to your hazard log.
- Build a bow-tie for your highest-scored hazard and test each barrier with the staff who operate it.

## Aviation Risk Assessment and Hazard Identification Questions FAQ

### What is aviation risk assessment and hazard identification, and why does it matter now?

It is the practice of finding hazards in flight, ground and airport tasks and scoring the risk they carry. It matters now because new routes, types and contractors create hazards faster than reports reveal them.

### Which roles gain most from aviation risk assessment and hazard identification?

Safety officers and operational managers gain most, along with planners and project leads introducing operational changes.

### How does aviation risk assessment and hazard identification differ from a safety management system course?

This course works at the level of individual hazards, matrices and bow-ties. A safety management system course covers the whole system, including policy, assurance and promotion.

## What do you bring back from aviation risk assessment and hazard identification?

You bring back a hazard log with scored entries, named owners and review dates, plus bow-tie diagrams for your top risks.

## Aviation Risk Assessment and Hazard Identification: The Way Forward

The hazard log with bow-tie diagrams first informs which risks need mitigation before the next schedule change. Safety officers maintain it, line managers own its actions and the safety review group signs residual risk. After its first review cycle, revisit the matrix definitions to see whether scores matched what the occurrence data later showed.