



Aviation Human Factors and Safety Culture

Course: Just Culture, Fatigue and CRM



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Introduction:

Aviation human factors and safety culture, covering just culture, fatigue and CRM, is a 1-week course for safety, human factors, training and operational supervision staff in airlines, airports, maintenance organisations and air navigation services, ending with a Human Factors and Safety Culture Improvement Plan. Most occurrences involve human performance limits that procedures alone do not control, and staff who fear blame stop reporting the errors the organisation needs to learn from. Nominees already manage safety, training or front-line teams, and teaching is by case study on occurrence reports and survey data. CoreConcept Training Center delivers this aviation human factors course.

Course Objectives:

- Explain human performance and error using the SHELL model, Reason's Swiss Cheese model and the ICAO Manual on Human Performance
- Classify occurrences with HFACS and the Dirty Dozen to find the organisational and supervisory factors behind front-line errors
- Apply threat and error management, CRM and MRM practices to flight operations, maintenance, ground and air traffic teams
- Assess fatigue risk using the approaches in ICAO Doc 9966 and set controls for rosters and shift patterns
- Run a just culture process that separates honest error, at-risk behaviour and reckless conduct and protects occurrence reporting
- Measure safety culture with surveys and maturity models and produce a Human Factors and Safety Culture Improvement Plan

Target Audience:

- Safety managers responsible for occurrence reporting, safety performance and safety promotion
 - Human factors specialists responsible for error analysis and human performance programmes
 - Training managers responsible for CRM, MRM and recurrent human factors training
 - Flight operations and air traffic supervisors responsible for crew and controller performance
 - Maintenance and ground operations managers responsible for technicians, inspectors and ramp teams
 - Rostering and operations planning managers responsible for duty times and fatigue controls
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Course Outline:

Day 1: Human Performance in Aviation Operations

- ICAO Manual on Human Performance Concepts and Terminology
- SHELL Model Analysis of Workplace Interfaces
- Reason's Swiss Cheese Model and Latent Conditions
- Error, Violation and Normalisation of Deviance Typology
- Human Factors Baseline Review for an Own Organisation

Day 2: Human Factors and Safety Culture Models

- HFACS Levels From Unsafe Acts to Organisational Influences
- Dirty Dozen Precondition Checklist for Maintenance and Ground Teams
- Threat and Error Management Model for Crews and Controllers
- Hudson Safety Culture Maturity Ladder Assessment
- Just Culture Principles and Decision Tree Design

Day 3: Applying Human Factors in Daily Operations

- CRM Behavioural Markers and Briefing Standards
- MRM Shift Handover and Task Card Error Controls
- Fatigue Risk Assessment Using ICAO Doc 9966 Approaches
- Occurrence Reporting System Design and Feedback Loops
- Human Factors Review of Procedure and Checklist Design

Day 4: Culture Diagnosis, Investigation and Problem Cases

- Safety Culture Survey Design, Sampling and Results Interpretation
- HFACS Coding of Occurrence Reports and Trend Analysis
- Just Culture Decision Tree Application to Contested Cases
- Production Pressure, Drift and Workaround Detection Methods
- Leadership Safety Behaviours and Middle Management Influence Mapping

Day 5: Case Study Work and the Improvement Plan

- Flight Operations Case Study on an Unstable Approach Continued
 - Maintenance Case Study on a Missed Inspection After Handover
 - Air Traffic and Ground Case Study on Fatigue and Communication
 - Safety Culture Survey Data Case Analysis and Priority Setting
 - Human Factors and Safety Culture Improvement Plan Completion
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Skills You Will Gain:

- Human Error Analysis
- HFACS Classification
- Threat and Error Management
- Fatigue Risk Assessment
- Just Culture Decision-Making
- Safety Culture Measurement
- CRM and MRM Facilitation
- Safety Promotion Planning

Why Attend This Course:

- Deliver a Human Factors and Safety Culture Improvement Plan to the safety review board and the accountable manager
- Decide whether an event reflects honest error, at-risk behaviour or reckless conduct and what response it warrants
- Avoid repeat occurrences, fatigue-related errors and falling report rates caused by blame, unmanaged rosters and weak handovers
- Coach supervisors and instructors on the HFACS coding, briefing standards and just culture steps practised during the course

Conclusion:

Back at work, the participant gives the Human Factors and Safety Culture Improvement Plan to the accountable manager, the safety review board and the heads of flight operations, maintenance and ground operations. They use it to decide which human factors controls, training changes and just culture steps to adopt first and who owns each one. After the first full reporting cycle, the organisation should compare report rates, repeat occurrences and culture survey scores with the baseline in the plan and adjust the actions that have not moved them.

Frequently Asked Questions FAQ:

What should participants know before an aviation human factors and safety culture course?

Participants should already manage safety, training or operational teams in an airline, airport, maintenance organisation or air navigation service. Bringing anonymised occurrence reports, a roster sample or recent culture survey results helps them apply the case studies to their own organisation.

How does an aviation human factors and safety culture course differ from an aviation SMS course?

This course concentrates on people: human performance, error, fatigue, team behaviour, just culture and how culture is measured and changed. SMS courses cover the management system itself, including policy, hazard identification, risk assessment and assurance, with human factors as one input.

Why does just culture matter in aviation human factors and safety culture?

Staff report errors only when they trust that honest mistakes will not be punished while reckless conduct is still addressed. A just culture process gives managers a consistent way to respond, which keeps reporting alive and lets the organisation learn from near misses.

What do participants take back from the aviation human factors and safety culture course?

Participants take back a Human Factors and Safety Culture Improvement Plan with a culture baseline, HFACS findings, fatigue and CRM controls, a just culture process and owned actions, ready to present to their accountable manager and safety review board.
