GTC Transforming Emerging Economies

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Safety & Risk Management in Aviation

COURSE OVERVIEW

This course provides a rigorous, systems-oriented framework for understanding and managing safety and risk in the complex aviation ecosystem. It is tailored to equip engineering professionals in the aviation sector with proactive and predictive methodologies for identifying, assessing, and mitigating risk throughout the aircraft lifecycle from design and certification to maintenance and operations. The curriculum covers foundational safety theories, regulatory requirements, and advanced analytical tools, emphasizing the engineer's critical role in building safety into systems and managing residual risk.

WHO SHOULD ATTEND?

This course is ideal for aviation professionals responsible for operational safety, regulatory compliance, and risk oversight, including safety managers, safety officers, and safety analysts. It is also suited for pilots, air traffic controllers, maintenance personnel, airline and airport operations staff, and quality assurance teams seeking to strengthen their understanding of hazard identification, risk assessment, and safety management systems.

COURSE OUTCOMES

Delegates will gain the skills and knowledge to:

- Apply core safety management principles and models (e.g., Reason's Swiss Cheese Model, SHELL) to engineering problems.
- Execute key risk assessment techniques, including Functional Hazard Assessment (FHA), Fault Tree Analysis (FTA), and Failure Modes and Effects Analysis (FMEA).
- Interpret and implement regulatory frameworks for Safety Management Systems (SMS) and airworthiness certification (e.g., FAA AC 23.1309, SAE ARP4754, ARP4761).
- Analyze accident and incident data to identify systemic causes and contribute to effective safety investigations.
- Develop a safety case and supporting documentation to justify risk acceptance decisions for new or modified designs.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- Principles and frameworks of safety management systems (SMS) in aviation.
- Hazard identification, risk assessment, and mitigation techniques.
- Regulatory requirements and international standards like ICAO Annex 19 and IOSA.
- Methods for promoting a proactive safety culture within aviation organizations.
- Emergency response and crisis management integration in safety processes.
- Use of safety performance indicators (SPIs) and continuous monitoring to enhance aviation safety.

All our courses are dual-certificate courses. At the end of the training, the delegates will receive two certificates.
1. A GTC end-of-course certificate
2. Continuing Professional Development (CPD) Certificate of completion with earned credits awarded