

Aircraft Maintenance & Reliability

COURSE OVERVIEW

This course provides a comprehensive foundation in the principles, practices, and regulations that govern the maintenance and reliability of modern aircraft. Moving beyond routine procedures, it focuses on the engineering and management systems required to ensure the continued airworthiness, safety, and economic viability of aircraft throughout their operational lifecycle. Emphasis is placed on a data-driven approach to predicting, preventing, and managing failures, ensuring that aircraft are maintained at the highest standards of safety and operational efficiency. Participants will explore the regulatory framework, reliability analysis techniques, and strategic maintenance philosophies that form the backbone of the global aviation industry.

WHO SHOULD ATTEND?

This course is ideal for aviation professionals ensuring aircraft safety, airworthiness, and operational efficiency. It suits maintenance engineers and technicians improving analytical skills, MRO planners and managers optimizing schedules, reliability engineers and analysts focusing on fleet performance, and CAMO personnel managing regulatory compliance. It also benefits quality assurance and safety staff auditing maintenance, as well as aircraft design engineers and fleet managers making decisions on maintenance costs and reliability.

COURSE OUTCOMES

Delegates will gain the skills and knowledge to:

- Interpret and apply aviation regulations from FAA and EASA.
- Understand key maintenance philosophies, including MRO and MSG-3 logic.
- Apply reliability engineering methods to predict failures and performance.
- Analyze maintenance data to identify trends and prioritize tasks.
- Develop and review maintenance documents like MEL and CDL.
- Evaluate maintenance decisions on lifecycle costs and availability.
- Understand Continuing Airworthiness Management and supporting structures.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- The fundamental principles of aircraft maintenance and reliability engineering.
- How to apply reliability-centered maintenance (RCM) and MSG-3 methodologies.
- Mechanisms for monitoring and analyzing component and system reliability data.
- Development and management of effective maintenance and reliability programs.
- Compliance requirements with aviation regulatory authorities and industry standards.
- Methods to improve fleet reliability and optimize maintenance scheduling.
- Practical skills for implementing maintenance reserve funds and escalation programs.

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