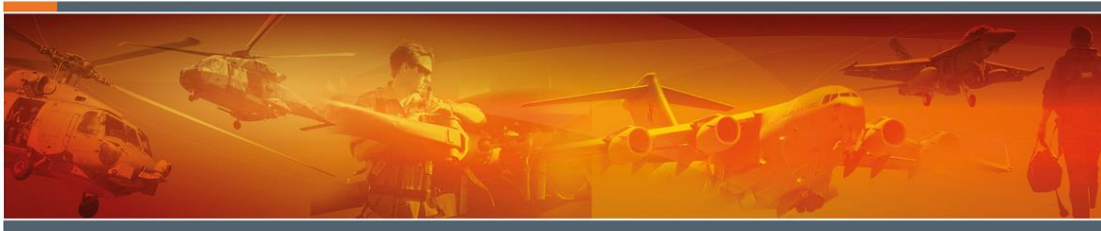


## Defence Aviation Safety Authority



# HELICOPTER STRUCTURAL ENGINEERING FAMILIARISATION COURSE

## Course Code

215483

## Course Duration

3 days

## Course Content

The aim of the Helicopter Structural Engineering Familiarisation Course is to provide participants with an understanding of helicopter structural design principles and the need for structural integrity management of ADF helicopters. Additionally, the course aims to promote a greater awareness of related ADF airworthiness regulations, as well as structural integrity management roles and responsibilities. The safety of aviation operations is underpinned by the structural integrity of the airframe and the dynamic components. The ADF manages this by implementing platform specific Aircraft Structural Integrity Programs. As stipulated in the Defence Aviation Safety Regulations, the Military Type Certificate Holder is responsible for implementing structural integrity management for their platform. To done successfully, an understanding of structural integrity is required across a wide variety of stakeholders within the aviation system.

### DAY 1

- What is Structural Integrity?
- How is Structural Integrity Managed?
- Helicopter Structural Integrity Stakeholders.
- Threats to Structural Integrity on Helicopter Systems.
- Fatigue Failure Case Studies.
- Introduction to Fatigue Design Philosophies.
- Overview of Airframe Fatigue Design.
- Dynamic Component Fatigue Design: Overview.
- Dynamic Component Fatigue Design: Material Properties.
- Dynamic Component Fatigue Design: Flight Loads.
- Dynamic Component Fatigue Design: Usage Spectrum.

## DAY 2

- Dynamic Component Fatigue Design: Fatigue Spectrum.
- Dynamic Component Fatigue Design: Fatigue Damage Hypothesis and Component Retirement Times.
- Safe Life Methodology.
- Introduction to Environmental Degradation.
- Environmental Degradation Case Studies.
- Preventing and Managing Environmental Degradation.
- Multi Threat Case Study.
- Helicopter Structural Integrity Regulations and Management Plans in Defence.
- Defence Certification of Helicopter Systems.
- Helicopter Structural Integrity Management in Defence.

## DAY 3

- Helicopter Structural Integrity Management Challenges and Limitations.
- Classification of Changes to Type Certification and Repairs.
- Changes to Airworthiness Limitations.

### Course Pre-Requisites

To be eligible to attend the course, applicants must either be Defence personnel (ADF/APS) or personnel contracted to Defence, who are currently involved in (or planning to be involved in) ADF Rotary Wing acquisition and/or in-service management. A tertiary engineering qualification or significant technical experience is highly desirable. Foreign Military personnel attendance will be considered on an individual basis.

### Target Audience

- Aerospace engineering officers, maintenance personnel, APS engineering personnel and contractors within Defence aviation units,
- CASG engineering/technical personnel involved in rotary wing platform acquisition and/or in-service management,
- DST Group personnel.

**Session:** #0016

**Date:** 08-10 October 2024

**Location:** Defence Plaza Melbourne & Virtual

\*Please clearly articulate your intention to attend in person or virtually within the nomination form box 'training justification'.

**Nomination Closing Date:** 16 September 2024

### Cost

There is no cost for ADF and APS personnel.

Industry participants are required to pay a fee of **AUD\$1250.00** per person. Industry participants are also required to complete the [DASA Training Contractor Billing Details form](#) contained in this link and submit it along with the training nomination form. Nominations by industry personnel **WILL NOT** be considered unless both forms are received by DASA Training.

Participants are responsible for arranging and funding their own travel, meals and accommodation through their unit/organisation.

Virtual attendance will be facilitated through [ADELE Open](#). Directions on how to access will be provided in the joining instruction.

### Special Requirements

Please notify DASA Training should you require assistance in attending the course, such as access, hearing, vision assistance, etc.

### **Nomination Form**

Personnel are to nominate directly to DASA Training using webform [AE655](#). If you are unable to nominate using the form, please contact DASA Training.

### **Course Administration Contact**

[DASA.Training@defence.gov.au](mailto:DASA.Training@defence.gov.au)

### **Directorate of Aviation Engineering – Helicopter Structural Integrity POC**

Major Peter Prendergast

OIC HSI

[peter.prendergast@defence.gov.au](mailto:peter.prendergast@defence.gov.au)

From Jan 2024

Major Leo Pasukov

OIC HSI

[leo.pasukov@defence.gov.au](mailto:leo.pasukov@defence.gov.au)