COURSE DETAILS

Light Aircraft - Undercarriage Design

Light Aircraft Association

- Analyse a landing gear mechanism using kinematic analysis.
- Predict structural loading and actuation power requirements.
- Predict and assess braking forces, temperatures and actuation forces.
- Perform a safety and reliability analysis using fault tree, failure modes and effects and active/standby analysis methods.

This one day course has been designed in partnership with the LAA and Coventry University. The aim of this course is to give an introduction to the theory and practice of designing an aircraft system through practical examples and simulation exercises. The course will focus on practical approaches to sizing and designing a landing gear system including performing safety and reliability analysis. The course will introduce structural sizing calculations including basic kinematic analysis and structural and actuation loading.

Who should attend?

Anyone with an interest in light aircraft design, build and flight. This course does not require previous qualifications, although prior knowledge of light aircraft is recommended.

Course content

This course will include:

- An introduction to structural theory, including forces, loads and kinematics movement calculation using approximation methods, energy conservation methods and trigonometry methods.
- An exercise to estimate actuation (landing gear lever) loads, based on an aircraft example.
- An introduction to fault tree analysis (FTA), failure modes & effects analysis (FMEA) and safety and reliability calculation methods.
- How to calculate braking force, temperature rise, rate and area loading and material choice.
- A walkthrough example of developing a model using free mathematics software, then using it as a design refinement tool.

Location

This course will be held in Coventry University's new £55m Engineering & Computing building. Based in Coventry City Centre, there is ample parking and easy access from the train station.

Delivery

The course will be delivered by academic experts with industry experience from Coventry University.

Please check www.lightaircraftassociation.co.uk to book on the next scheduled course.

CU Services Limited

Coventry University

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