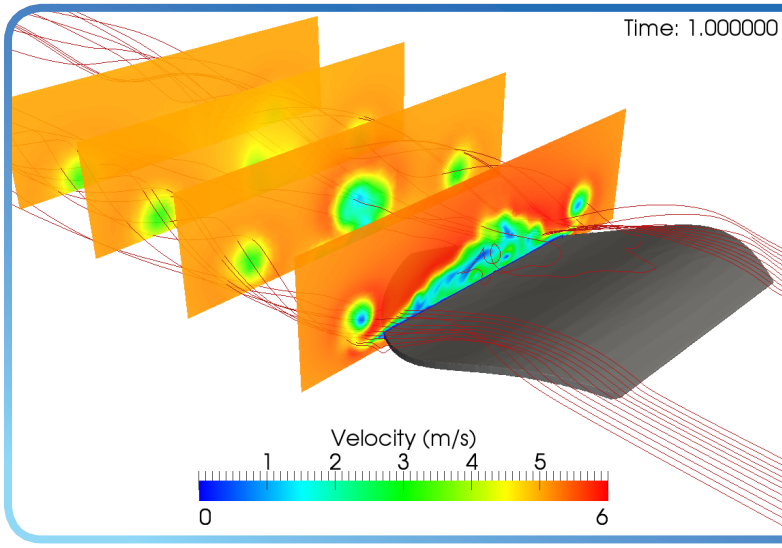
COURSE DETAILS

Light Aircraft - Aerodynamic Simulation

Introduction to Computational Fluid Dynamics

Light Aircraft Association

- Understand the fundamentals of CFD.
- Identify suitable problems that can be analysed with CFD.
- Understand some of the limitations of CFD.
- Apply CFD to simple design/ aerodynamics problems.
- Interpret and present CFD results in order to make informed design decisions.



This one day course has been designed in partnership with the LAA and Coventry University.

Over the last few decades Computational Fluid Dynamics (CFD) has been steadily replacing more traditional testing approaches (e.g. wind tunnel testing) for aircraft design. This trend has been fuelled largely due to significant advancements in computer science as well as the ever increasing accuracy of computer models. This course aims to provide a practical introduction to CFD, with a particular focus on how CFD can aid in the design of light aircraft through a series of practical examples. Additionally, only bespoke open-source software will be used. This will enable participants to commence applying CFD to support their design efforts without the need to pay large licensing fees.

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 CFD fundamentals, including CFD and the finite volume method and meshing and boundary conditions.
- An exploration of practical guidelines and limitations, including and introduction to turbulence modelling, understanding the design problem and CFD limitations.
- Hands on experience on the generation of suitable meshes for CFD simulations and an exploration of the various solution algorithms available on the software.
- How to extract relevant information for the CFD simulation plus how to interpret and present results through a series of guided exercises.

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.

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