

Introduction to CFD (3 Days)

This three day course is intended for users who are new to CFD and who need an introduction (or re-introduction) to fluid mechanics, heat transfer and computational fluid dynamics. The goal is to make you more successful at CFD by having a more thorough knowledge of the underlying physics and numerical techniques of the software. It is assumed that participants have a technical education and background, but not necessarily an engineering degree.

The first day begins with an introduction to general fluid mechanics and the governing equations. Thereafter follows a review of boundary layer flow, internal/external flows and heat transfer.

On the second day we look more closely on the CFD technique. This is done in a general fashion independent of CFD software package. The topics that are discussed are discretisation and meshing considerations, appropriate boundary conditions, solution methodologies, turbulence modeling and postprocessing. The day ends with some case studies.

During the third day the theory is applied using the CAD-to-CFD software FloWizard where the user can work with tutorials to practice the different steps in setting up a CFD calculation.