

TRAINING COURSE

CFD MODELING

FEBRUARY 16–19

SCHEDULE

Day 1

The training course begins with a step-by-step guided introduction to fluid flow modeling, so that you learn the key steps in the modeling workflow. After briefly introducing the software and modeling workflow, the course will transition to focusing on fluid flow applications. The following topics will be covered:

- Overview of the CFD Module
- Modeling creeping and laminar flows
- Modeling turbulent flows and selecting the appropriate RANS turbulence models
- Introduction to compressible flow modeling

Day 2

The second day builds upon the training from the previous day with a focus on the modeling of conjugate heat transfer and chemically reacting flows. Topics will include:

- Modeling high Mach number flows
- Modeling natural and forced convection
- Modeling chemically reacting flows
- Modeling particle tracing and fluid-structure interaction

Day 3

The third day will focus on the modeling of multiphase flows. Topics will include:

- Modeling rotating machinery and mixing
- Modeling separated multiphase flows
- Modeling dispersed multiphase flows

Day 4

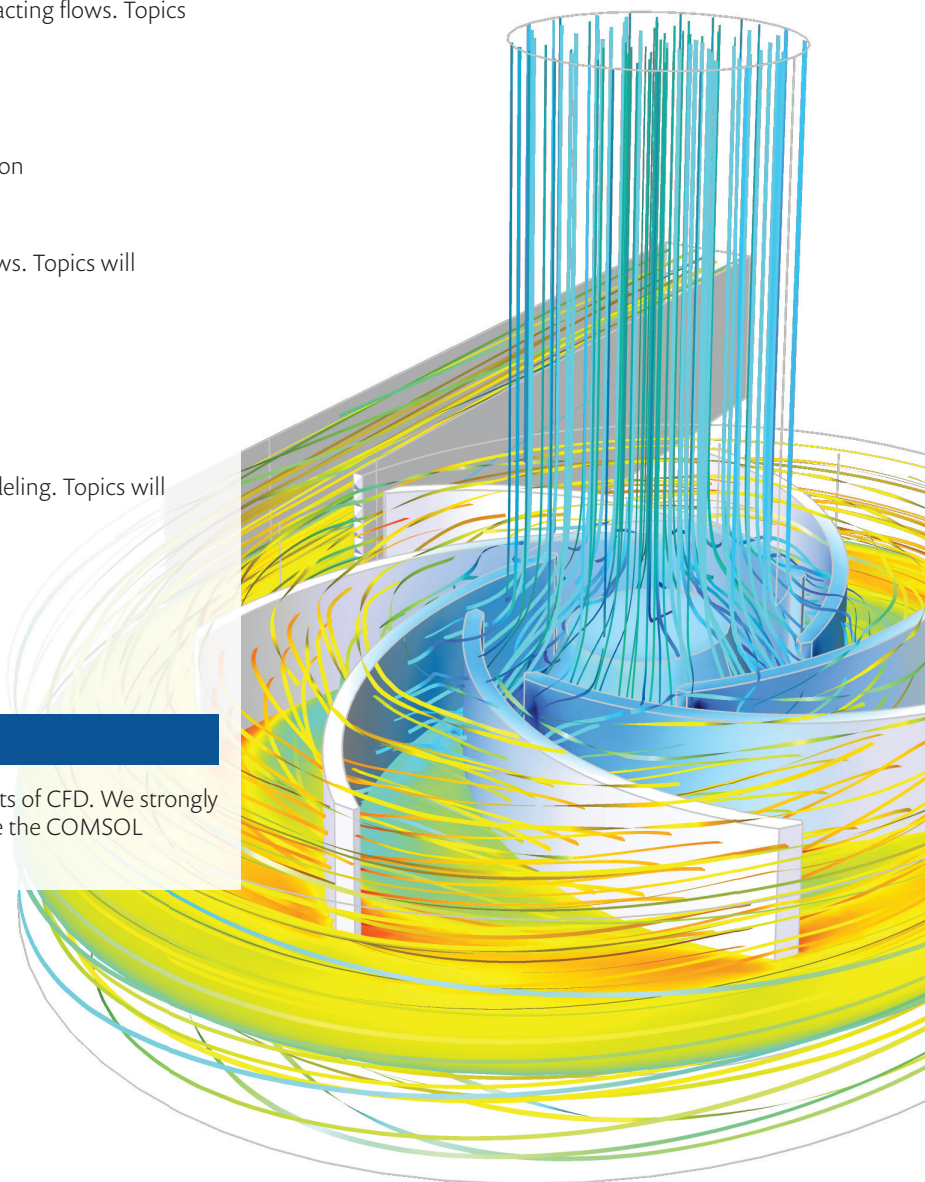
The fourth day will focus on special cases in fluid flow modeling. Topics will include:

- Modeling non-Newtonian flow
- Modeling porous media flow
- Best practices for CFD modeling
- Visualization and presentation of results

This course is an introduction to the basics of CFD modeling with COMSOL Multiphysics®. The course will include a combination of live demonstrations and hands-on exercises.

By the end of the course, attendees will be able to determine the appropriate module or interface to use for their application and understand the fundamental physics features needed to get started on building their model and analyzing the results.

FOR QUESTIONS PLEASE CONTACT
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SUGGESTED

This course assumes some familiarity with the basic concepts of CFD. We strongly recommend that those new to COMSOL Multiphysics® take the COMSOL Multiphysics® Intensive course prior to attending this class.