[FRANCAIS] Volumes finis et Mécanique des fluides avancées

ECTS
3 crédits

Hourly volume
36h

Introducing

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

-the different models used to describe the dynamics of turbulent flows
-the principles and the theoretical background of the finite volume methods used in computational fluid dynamics.

This course completes and deepens the basic notions of the S8 course entitled: "Numerical models and methods for fluid and structural mechanics".

The student will be able to:
-Understand the models used to describe the dynamics of turbulent flows,
-Know the underlying assumptions and the limits of validity of these models,
-Know/understand the main numerical methods used in CFD and apply them,
-Use a model and a numerical method adapted to the fluid mechanics problem to be solved and the desired accuracy.

Necessary prerequisites

Basic skills in computational fluid mechanics (dynamics of incompressible flows, general principles of the finite volume method)

Practical info

Location(s)

Toulouse