UE Numerical methods in solid and fluid mechanics 2

Level
Baccalaureate +4

ECTS
3 credits

Component
UFR PhITEM (physique, ingénierie, terre, environnement, mécanique)

Semester
Printemps

- **Teaching language(s):** English
- **Open to exchange students:** Yes
- **Code d'export Apogée:** PAX8MEAC

Presentation

Description

This second part of the course introduces students to finite difference methods as a means of solving different type of differential equations that arise in fluid dynamics.
Fundamentals of numerical analysis, ordinary differential equations and partial differential equations related to fluid mechanics and heat transfer will be reviewed.
Error control and stability considerations are discussed and demonstrated.
A simple code using the finite difference method will be developed, tested and used on a one-dimensional partial differential equations.

Course parts

UE Numerical methods in solid and fluid mechanics 2 - CM	Lectures (CM)	5h
UE Numerical methods in solid and fluid mechanics 2 - TD	Tutorials (TD)	10h
TP	Practical work (TP)	9h

Period : Semester 8

Useful info

Place

- Grenoble

Campus

- Grenoble - University campus