

COURSE PLAN 2024 (provisional)

Week	Lecture	Simulation stage	Tutorials / Exercises	Assessments
1	Introduction	All	Overview of simulation workflow	- Understand rules and objectives. - Make groups of 3-4 students.
2	The Finite-Volume Method	Computation	Steady diffusion	
3	- Solving the linear system - Nonlinearity	Computation	- Solving the linear system - Nonlinearity	
4	Convection	Computation	Steady convection-diffusion	Description of project #1 available
5	Solving the Navier-Stokes eq.	Computation	Navier-Stokes	
6	Time integration	Computation	- Unsteady convection-diffusion - Unsteady flow	
-	Holidays			
7	Geometry and meshing	Geometry & meshing	- Geometry - Meshing	
8	Computation, boundary conditions, symmetries...	Setup	- Overview of simulation setup - Solving	Project #1: hand in report by Tuesday, November 5.
9	Turbulence (1/2)	Computation	Turbulent flow	
10	- Turbulence (2/2) - Parallel calculation	Computation	- Turbulent flow (finish) - Parallel calculation	
11	- Visualization - Verification and validation	Post-processing	- Post-processing - Verification and validation	
12	Flow case (demonstration)	All	Case study	
13	Other topics (other discretization methods, 2-phase flow...)	All	Other topics	Written exam on Tuesday, December 10 or 17.
14	Free time for project + Q&A	-	Free time for project + Q&A	
16	-	-	-	Project #2: hand in report by Friday, January 3.

Legend :background color = stage of the simulation workflow

Pre-processing
Setup & computation
Post-processing

Text color = simulation software

Matlab
Fluent