

20 March 2012

SG2224
Applied CFD

Course content



- Project
- Lectures
 - Modelling and simplifications
 - Turbulence
 - Grid
 - Quality and trust
- Individual task
- Fluent tutorial
 - One day (12 or 13 April) in half class, experts from Fluent
- Information from other CFD vendors (tbd)
- Examination
 - Based on the project – no individual measure

List of students

- Check your data – add and correct
- Cross “participated 20-mar”
- If you are not on the list – contact me at the break

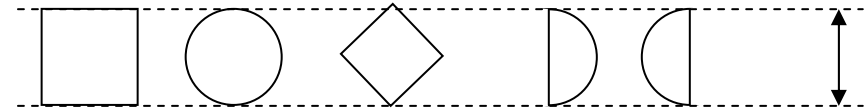


ANSYS/Fluent tutorial 12/13 April



- 2 experts from ANSYS/Fluent Sweden give tutorial on:
 - Geometry builder
 - Mesher
 - Fluent
- ANSYS/Fluent need a list of all participants
- List will be send to ANSYS USA for approval
- I assume that everyone will be approved – if not, we have a problem
- If you for some reason do not want to send your name to ANSYS – contact me at the break

Individual task



- Objective
 - Drag coefficient for a 2D object
- Aim with the individual task
 - Understand the process (geometry-grid-solution)
 - Understand the tools
 - Detailed step-by-step instruction available on web
 - Basis for the project work
- Time plan
 - Before 12/13 March: Try to do the task based on the detailed instruction
 - Before 16 April: Complete the task – upload results



Projects



- Groups and choice of project
 - Until 27 March: Form groups of 3 students
 - 27 March: Presentation of projects – group chose 3 projects
 - 30 March: I have distributed the projects on the groups
- Time plan
 - 30 March: Group formed and project assigned
 - 12 or 13 April: Fluent tutorial
 - 4 May: Project status checkpoint
 - 25 May: Project presentation and report uploaded
- Aim with the project
 - Problem definition, modelling level and approximations
 - CFD analysis: Meshing, computation, analyze
 - Quality: Refined analysis, parameter study, et.c.

Info



- Access to computer lab (Fylke, SAM, Teknikringen 14)
 - Access card (all students), problems: contact "card reception".
- Bilda (bilda.kth.se)
 - Project communication
 - Upload individual task and project
 - Make sure you have access – login
- Literature
 - Lecture notes
 - Casey, M. & Wintergerste, T. (eds.), Best Practice Guidelines. 350 sek, available in Mechanics expedition, level 5
- Course info:
 - KTH Social (under construction)
- ANSYS/Fluent software
 - In SAM
 - Will be made available for installation (laptop) and use at KTH