

18 March 2013

SG2224
Applied CFD

Course content



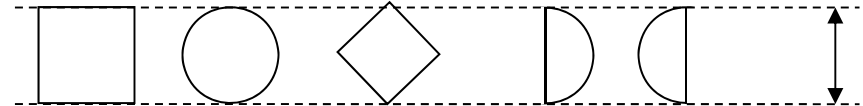
- Project
- Lectures
 - Modelling and simplifications
 - Turbulence
 - Grid
 - Quality and trust
 - Physical modelling
- Individual task
- Fluent tutorial
 - One day (10 or 11 April) in half class, experts from Fluent
- Information from other CFD vendors (tbd)
- Examination
 - Based on the project – no individual measure

ANSYS/Fluent tutorial 10/11 April



- 2 experts from ANSYS/Fluent Sweden give tutorial on:
 - Geometry builder
 - Mesher
 - Fluent
- Tutorial not mandatory but recommended
- Registration to the tutorial
 - Registration mandatory !!!
 - Through ANSYS webpage, link at KTH social
 - Due 2 April
 - Fluent

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 10/11 April: Try to do the task based on the detailed instruction
 - Before 18 April: Complete the task – upload results



Projects



- Groups and choice of project
 - Until 25 March: Form groups of 3 students
 - 25 March: Introduction of projects – group chose 3 projects
 - 28 March: I have distributed the projects on the groups
- Time plan
 - 28 March: Group formed and project assigned
 - 10 or 11 April: Fluent tutorial
 - After tutorial, project work can start
 - 13 May: Project workshop: Presentation and report uploaded
- Aim with the project
 - Problem definition, modelling level and approximations
 - CFD analysis: Meshing, computation, analyze
 - Quality: Refined analysis, parameter study, etc.

PDC account



- Running on Ferlin
 - 512 nodes, 4096 cores and 8.2 TB of main memory
 - Can be used for Fluent runs in this course
 - 15 April: PDC information how-to
- Account
 - KTH – Social - Registration, PDC account
 - As soon as possible

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
- Course info:
 - KTH Social (under construction)
- ANSYS/Fluent software
 - In SAM
 - Available for installation (laptop) and use at KTH through progdist