

30 March 2016

SG2224 Applied CFD

Course content



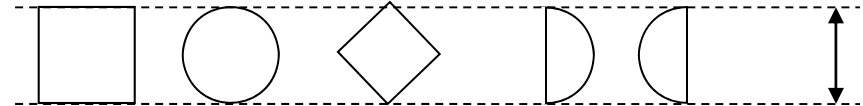
- Project
- Lectures
 - Modelling and simplifications
 - Turbulence
 - Grid
 - Quality and trust
 - Physical modelling
- Individual task
- Fluent tutorial
 - One day (13 or 14 April) in half class
- Information from other CFD vendors (tbd)
- Examination
 - Based on the project – no individual measure

ANSYS/Fluent tutorial 13/14 April



- Sasan Sadrizadeh from KTH with material from ANSYS will give tutorial on:
 - Geometry builder
 - Mesher
 - Fluent
- Tutorial not mandatory but highly recommended
- Good opportunity to get Fluent tutorial “for free”
- Registration to the tutorial
 - More information will come

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 13/14 April: Try to do the task based on the detailed instruction
 - Before 18 April: Complete the task – upload results, feedback 20 April



Individual task 2

- One of the tutorials during the Fluent tutorial day 13/14 April
 - More information later
- Time plan
 - Before 18 April: Complete the task – upload results, feedback 20 April



Projects



- Groups and choice of project
 - Until 11 April: Form groups of 3 students
 - 11 April: Introduction of projects – group chose 3 projects
 - 18 April: I have distributed the projects on the groups
- Time plan
 - 13 or 14 April: Fluent tutorial
 - 18 April: Group formed and project assigned
 - Project work can start
 - 17 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.

Info



- Access to computer labs (Fylke, SAM, Teknikringen 14)
 - Access card (all students), problems: contact "card reception".
 - All KTH/IT computer rooms can be used
- 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 (student license)
 - In all KTH/IT student computers (e.g. Bure, Fylke, ...)
 - Available for installation through progdist or ansys.com/student (15.2)
 - Version 15.0 will be used, but 15.2 should be compatible