57:020 Mechanics of Fluids and Transport Processes
Instructions and Grading for CFD Lab Report

Section   Points

PreLab Questions   Submitted before PreLab   10

1   **Title Page**   5
           1.1 Course Name
           1.2 Title of report
           1.3 Submitted to "Instructor's name"
           1.4 Your name (with University ID and email address)
           1.5 Your affiliation (Department, Group)
           1.6 Date
2   **Test and Simulation Design**   10
           Purpose of CFD simulation
3   **CFD Process**   10
           Describe in your own words how you implemented CFD process
           (Hint: CFD process block diagram)
4   **Data Analysis and Discussion**   50
           Answer questions given in **Exercise Notes** of the CFD lab handouts
5   **Conclusions**   15
           Conclusions regarding achieving purpose of the simulation
           Describe what you learned from CFD Lab.
           Comments on the "hands-on" experience, software interface, and lab performance
           Suggestions and improvements
                                                                            Total   100

Additional Instructions:

1. Each student is required to hand in individual lab report and PreLab questions.
2. Conventions for graphical presentation:
         ＊ CFD figures should be plotted using symbols without X and Y grid
         ＊ All figures in the report should be either the hardcopies of FlowLab or the
            plots using other commercial software (Excel).
         ＊ Color print of figures recommended but not required
3. Reports will not be graded unless section 1 is included and complete
4. CFD Lab report template is provided to facilitate you to write reports.

CFD Process Block Diagram

Geometry	Physics	Mesh	Solve	Reports	Post-Processing
Select Geometry	Heat Transfer ON/OFF	Unstructured (automatic/ manual)	Steady/ Unsteady	Forces Report (lift/drag, shear stress, etc)	Contours
Geometry Parameters	Compressible ON/OFF	Structured (automatic/ manual)	Iterations/ Steps	XY Plot	Vectors
Domain Shape and Size	Flow properties		Convergent Limit	Verification	Streamlines
	Viscous Model		Precisions (single/ double)	Validation	
	Boundary Conditions		Numerical Scheme		
	Initial Conditions				