M E 5101 Computational Fluid Dynamics

Course Project Report

What should you include in your report?

1	Abstract Should be in one single paragraph of 200 words. It should convey the main purpose and results of the work in a clear and concise manner.
2	Introduction and Literature Survey A literature survey should be done, if appropriate, to gain insight into the problem. A good introduction should be written about the problem at hand in your own words in detail (instead of copying whatever the instructor provided)
3	Objectives of the Work Major objectives should be clearly identified and stated concisely.
4	Problem Formulation Includes but not limited to Governing Equations, Initial and Boundary conditions, Derivation of stream-function vorticity equations, Initial and Boundary Conditions for stream function and vorticity and anything else that can fit in here.
5	Methods Includes but not limited to Nondimensionalization, discretisation, Von-Neumann stability analysis, Derivation of CFL criteria, Grid generation.
6	Solution Procedure and Algorithm Should be described step-wise in detail for both the unsteady and steady cases.

7	Results These are the questions you must ask yourself when you form this section - Are the results accurate? Have the simulations been performed carefully? Have all calculations been done correctly? Has a sufficient amount of data been taken to formulate conclusions? Have you done whatever is asked for in Sections 7.1, 7.2, and 7.3 of the problem statement handed out to you?
8	Discussion Should be done in detail. I will check if a clear understanding of the project has been demonstrated by you. See section 8 of the problem statement handed out for more details.
9	Conclusions Meaningful and logical conclusions should be drawn from the results.
10	Appendices Should include your codes and programs neatly formatted and edited. Your programs should include comments and be easy for another student to understand.
11	References You should include a comprehensive reference list, and they should have been referred to in various sections of your report as necessary.
12	Aesthetics Includes but not limited to general appearance, formatting, indentation, neatness, how equations have been arranged, how they have been numbered, how pages have been arranged, etc.
13	Tables and Figures Are the tables and plots neat and well labeled? Are the tables and plots referred to by number in the body of the report? (e.g. “...see Table 3...”, “...as found in Figure 4...”)

13	Grammar and Spelling After you finish the report, check for the following. Has the writing been carefully edited? Has a consistent tense been kept in the writing? Has the work been crosschecked for spelling and grammatical errors?
14	Adherence to Instructions Have all directions/instructions (given by the instructor in class orally or via emails) been followed in the report?
15	Extra Work You must do all that I have asked you to do in this project, but it is not necessary that you stay restricted to this. Innovative, useful, and meaningful extra work will receive extra credit!!