57:020 Mechanics of Fluids and Transfer Process

Instructions and Grading for EFD Lab Reports

		Points
Prelab Questions	Due at the beginning of the lab class period	10

Section		
1	**Title page** Course name Title of report Submitted to "Instructor's name" Your name Your affiliation (group, section, department) Date and time lab conducted	5
2	**Test design** Purpose of experiment Description of experimental facility and model installation List data reduction equations and SI units of the variables Description of experimental conditions	15
3	**Measurement systems** Description of measurement systems List and description of instruments involved (hardware & software) Description of data acquisition (DA) procedure (hardware & software) Description of data reduction (DR) procedure (hardware & software) Description of calibration procedures Tables of derived data (with units and captions)	15
4	**Uncertainty Analysis** Bias limits Precision limits Total uncertainty Total uncertainty in percent of mean value	15
5	**Data Analysis and Discussion** Plot results (including uncertainty bands) vs. benchmark data Compare experimental results with benchmark and discuss/explain differences Discuss trends observed in results and important fluid mechanics phenomena (Answer specific questions mentioned in the discussion section) Discuss uncertainties and other possible sources of error	25
6	**Conclusions** Conclusions regarding achieving purpose of experiment Describe what you learned Describe future work or alternative ways to accomplish the purpose	15

Specific Instructions:

1. Each student is required to hand in separate lab reports. Prelab questions, sections 1, 2, 5, and 6 should be written individually by each student, whereas sections 3 and 4 may be written by group or rotating responsibility within each group for different labs.

2. Lab reports should be brief and in your own words, but use figures and tables from lab handouts where appropriate and cover all requested questions.

3. Conventions for graphical presentation:
    * Experimental data should be plotted using symbols; different symbols for different variables or conditions
    * Theoretical/simulation curves should be continuous lines
    * The axes should be properly labeled; variable names and units should be specified
    * A legend should be provided if an array of variables is used
    * The graphs and tables should be numbered and captioned

4. Reports will not be graded unless section 1 is included and complete.