

53:071 Principles of Hydraulics

Report Format

- Section 1 : Title page** **2 points**
- Course name
 - Title for the report
 - Submitted to : “Instructor's name”
 - Your name
 - Your affiliation (Group, Section, Department)
 - Date of report submittal
- Section 2 : Introduction** **10 points**
- Statement of the problem to be studied in the lab
 - Description of the basic physics involved in this problem
 - Statement of hypothesis to be verified or question to be answered by this experiment
- Section 3 : Experimental Procedure** **6 points**
- Briefly outline the procedure adopted and the equipment used in the experiment.
 - Sketch the experimental set-up, including a caption.
- Section 4 : Results** **25 points**
- Separate the Results section into sub-sections on “Measurements” (the quantities that were directly measured) and “Data Analysis” (quantities derived from the raw data and further computations).
- a) Measurements (10 points)
- Table of raw data, with units and caption
 - Measured uncertainty in raw data
- b) Data Analysis (15 points)
- Sample calculations for derived data, showing how each quantity was computed
 - Table of derived data, with units and caption
 - Uncertainty analysis for derived data, giving representative uncertainty calculations for each derived variable.
- Section 5 : Discussion** **35 points**
- With the results of the experiment having been presented clearly and concisely, there arises the need to comment on their validity; so a comparison with theory or similar work by others is crucial
- Brief statement of pertinent theory (3 points)
 - Figures, with captions, comparing experimental results with theory (18 points)
 - A discussion of the trends observed in the results, and what these suggest of the theory and initial hypotheses (8 points)
 - Discussion of possible systematic error and of which measurements were responsible for most of the uncertainty in the data. (5 points)

Section 6 : Conclusions

5 points

- Restate the experiment's objectives and describe how the questions raised in the Introduction were resolved.
- Describe further work or other ways to accomplish the objectives.

Section 7 : Further considerations

15 points

- Provide short answers to the questions addressed in the homologous section of the Lab writeup

Section 8 : References

2 points

100 points

Comments :

1. The distinction between the Results and the Discussion sections must be remembered :

- The Results section is simply a bare presentation of the raw and derived experimental data, utilizing tables and graphs.
- The Discussion section uses the data to address the question or hypothesis posed in the Introduction. Also, in the Discussion section the derived data obtained in the experiment are compared to either theoretical results or experimental results of other investigators, and a discussion of the possible systematic errors in the experiment is given.

2. The conventions in a graphical presentation should be followed :

- Experimental data are plotted using symbols; different symbols for different quantities or cases.
- Theoretical curves should be continuous lines.
- The axes should be properly labeled; variable names and units should be specified.
- The figures should be numbered and captioned.