

TECHNICAL REPORT GRADE SHEET

1/2

Experiment: <u>Plate and Frame Filtration</u>	Project # _____
Date: _____	Section # _____
Report Grade: _____	Group # _____
E1: _____	E2: _____
	E3: _____

Criteria	Description	Points Possible	Points Received
Cover Memo or Abstract	Complete. State objectives. Gives precise "big picture" statement of most important results and conclusions. State methods as needed.	10	
Intro. & Objectives	Interesting, relevant. Objectives clear, concise, quantitative, specific to project.	10	
Literature Review	Three research articles. Relevant. Concise but informative summary.	10	
Apparatus and Procedure	Good schematic and discussion thereof. Relates measurements to data needed to meet objectives. No 2 nd person. Not written to operator or technician. Does not assume Instructor has prior knowledge.	10	
Principles/ Equations	Complete and correct. Relates to objectives. Shows physical meaning. Relates to experiments. Equations numbered. Standard symbols used. Sufficient references. Does not assume instructor's prior knowledge.	10	
Experimental Plan	Concise but clear description of the conditions, levels, exact runs performed. Total number of runs.	5	
Results and Discussion	Logical and orderly. Relates to project objectives. Each figure and table called out & discussed thoroughly. Good topic sentences followed by strong paragraphs. Each observation and conclusion supported. Thorough. Does not assume Instructor has prior knowledge. Critical Thinking!	20	
Conclusions	Supported by Results and Discussion. Consistent w/ Objectives. Repeat quantitative, specific findings. Relevant and useful. Critical Thinking	5	
Literature Cited	Cite all relevant journal articles, books, handbooks, etc. wherever needed in the main body. Use standard (ACS Guide) methods to call out citations. Provide complete bibliographic info. In the Lit. Cited section. No footnotes. Minimize direct quotes. No titles cited in the text.	5	
Appendix I	Copies of Laboratory Notebook pages.	5	
Appendix II	Copy of Sample Calculations.	5	
Appendix III	Copy of three articles cited in Lit Review.	5	
Lab Notebook Appendix	Submit raw data; copy pages from notebook	5	
Documentation Appendix	Document sample calculations; provide sufficient narrative, working equations, units, etc. so that TA can follow the calculations.	5	
Appearance	All required sections. Margins observed. Neat handwriting if necessary. Stapled or clipped. Neat. Conform to Lab Manual instructions	5	

Figures	Informative titles and legends. Only 1 title per fig. Clear symbols and lines. Corrected Excel or PowerPoint defaults. Margins. Large enough to read. No excessive frames or borders. Discuss every figure. Capitalize "Figure"	5	
Tables	Informative titles and headings. Describe content of tables (columns & rows). Only 3-4 significant digits. Show units. Useful information. Corrected Excel or PowerPoint defaults. Margins. Large enough to read. No excessive frames or borders. Discuss every table. Capitalize "Table y"	5	
Grammar and Spelling	Check verb use with "data." Complete sentences. Homonyms. Apostrophes. Minimal use of possessives. No 2 nd person. Noun / verb agreement.	5	
Digital Report	CD Included with the final report (in a single word document) and all files used to calculate the results recorded.	10	
Required Content			
1	Report all calculations in consistent English units.	17.5	
2	Plot $t/(V/A)$ versus V/A to obtain R_f and α for the constant pressure condition.	17.5	
3	Plot $\Delta p/Q$ versus V to obtain R_f and α for the constant flow condition.	17.5	
4	Show how the linearized forms of the constant pressure and constant filtration rate equations were found.	17.5	
5	Calculate the times necessary to process up to 190lbs. of filtrate using the attached pump characteristic curve. Compare with experimental time it takes to process 190 lbs. of filtrate. From any of your runs- comment on why the runs can or cannot be compared directly with the model.	17.5	
6	Plot V , Δp and Q versus time for all runs and explain the curves.	17.5	
7	Compare the resistances found for the constant pressure with the constant flow rate. Is there a difference between the two? Why or why not?	17.5	
8	Determine the pressure dependence of α using the Almy-Lewis equation, using only the constant pressure runs. Why can you only use the constant pressure runs?	17.5	
	Total	280	
	Percentage of Total		