

ChE 415/416 – Unit Operations Laboratory – Postlab Grading Sheet

(Revised: 09/2006; Reviewed: 09/2006)

Experiment: _____

Team # and Members: _____

Postlab: Gateway Criteria

A check here means the written report is unacceptable. Correct and resubmit it by _____.

- ___ Appearance or writing style unprofessional.
 - ___ Averages more than about one grammatical error / spelling error / typo per page.
 - ___ Format of figures / tables / references / equations unacceptable.
 - ___ Instructor's prelab comments not addressed.
 - ___ Grades of F for at least one trait in the Primary Trait Analysis.
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<i>Section</i>	<i>Weighting</i>	<i>Original Grade</i>	<i>Rewrite Grade</i>
<i>Report Overall – Experimental Uncertainty</i>			
<i>Report Overall – Quantitative vs. Qualitative, Terminology</i>			
<i>Report Overall – Presentation Style</i>			
<i>Objective</i>			
<i>Presentation of Results – Actual Results</i>			
<i>Presentation of Results – Experimental Methodology</i>			
<i>Presentation of Results – Sample Calculation</i>			
<i>Discussion – Statistical Analysis</i>			
<i>Discussion – Analysis of Trends or Anomalies</i>			
<i>Conclusions</i>			

Rewrite: **Voluntary** **or** **Mandatory**

Postlab Grade: _____

(This score does not reflect any reduction for a mandatory rewrite penalty.)

Postlab: Primary Trait Analysis

Report Overall – Experimental Uncertainty _____

A	All values quoted with uncertainties throughout the report. Includes error bars on figures as appropriate. Bases of uncertainties and error bars appropriately chosen (propagation of error or statistical methods) and clearly defined. Most important sources of uncertainty are identified.
B	
C	Some important values quoted without uncertainties OR some uncertainties not appropriately based on propagation of experimental error or on statistical methods OR some errors in identifying most important sources of uncertainty.
D	
F	Most values quoted without uncertainties OR basis for most uncertainties unclear OR heavy reliance on “operator error” as a source of uncertainty OR major errors in error propagation or application of statistical methods.

Report Overall – Quantitative vs. Qualitative, Terminology _____

A	Discussion is almost exclusively quantitative. Words like “significant” and “negligible” have clear meanings. Engineering terminology used exactly and correctly. No casual or slang terminology used where engineering terminology is appropriate.
B	
C	Often qualitative OR occasional misuse of engineering terminology OR occasional use of casual terminology instead of engineering terminology.
D	
F	More qualitative than quantitative OR frequent misuse of engineering terminology OR frequent use of casual terminology instead of engineering terminology.

Report Overall - Presentation Style _____

A	Effective choice between tables, graphs, and text. Presented in a logical order. Presentation makes comparisons and observations of trends easy (e.g., plots grouped, scales consistent). Units and proper number of significant figures used.	Style & mechanics (+ / -)
B		_____ Style
C	Presentation allows comparisons and observations of trends with effort OR choice between tables, graphs, and text could be more effective in spots OR order of presentation confusing in spots OR some units missing.	_____ Clarity
D		_____ Format
F	Presentation incomplete OR presentation makes comparisons and observations of trends difficult OR presentation seems generally geared to convenience of writer, not reader OR generally confusing.	

Objective _____

A	Summarizes design objective. Clearly states experimental objectives sufficient to achieve design objective. Clearly states relationship between design objective(s) and experimental objective(s). Concise, consisting of 3 – 5 sentences.	Style & mechanics (+ / -)
B		___ Style
C	Summarizes design objective. States experimental objectives sufficient to achieve design objective. Relationship between design and experimental objectives not stated clearly OR not concise.	___ Order
D		___ Content
F	Does not summarize design objective OR does not clearly state specific experimental objectives OR major error(s) in stated objectives OR experimental objectives not sufficient to achieve design objective.	___ Grammar/Spelling

Presentation of Results - Actual Results _____

A	All results related to the objectives are shown and are based on proper data collection and calculations. All results appear reasonable.
B	
C	As for “A”, but most results related to the objectives are shown OR most results appear reasonable.
D	
F	Several results related to the objective are missing OR most results appear unreasonable.

Presentation of Results - Experimental Methodology _____

A	Experimental methodology summarized. Deviations from prelab test matrix noted and reasonably explained. Deviations from prelab Data Analysis noted and reasonably explained.	Style & mechanics (+ / -)
B		___ Style
C	Experimental methodology summarized. Deviations from prelab test matrix and Data Analysis noted, but explanations very weak or absent.	___ Order
D		___ Content
F	Experimental methodology not summarized OR deviations from prelab test matrix or prelab Data Analysis not noted.	___ Grammar/Spelling

Presentation of Results - Sample Calculations _____

A	Complete and correct. Easy to follow. Units are included	Style & mechanics (+ / -)
B		___ Style
C	Minor omission OR minor error. May be confusing in spots.	___ Order
D		___ Content
F	Major omission OR major error OR multiple errors and/or omissions OR generally confusing.	

Discussion - Statistical Analysis _____

A	Complete and appropriate statistical analysis included. Evaluation of model equations based on at least two criteria such as variance, correlation coefficient, and residual plots. Comparison of values based on hypothesis testing (e.g. t-test) as appropriate. Statistics are interpreted, not just quoted.
B	
C	Some minor errors or omissions in criteria presented above.
D	
F	Major errors in application of statistical methods.

Discussion - Analysis of Trends or Anomalies _____

A	Results and/or trends are correctly explained by reference to ChE theory or literature values. Unusual results/trends are noted with plausible explanations. Includes appropriate references.	Style & mechanics (+ / -)
B		___ Style
C	Minor errors in analysis of results and/or trends as described above. Most unusual results/trends are noted.	___ Order
D		___ Content
F	Most unusual results go unnoted OR major errors in interpretation OR appropriate references not provided.	___ Grammar/Spelling

Conclusions _____

A	Clearly states key results and relates them directly to objectives. Expresses limitations of findings in terms of uncertainties <i>and</i> conditions tested.	Style & mechanics (+ / -)
B		___ Style
C	Key results not clearly stated OR some confusion in relating them to objectives OR limitations not expressed in terms of uncertainties or conditions tested.	___ Order
D		___ Content
F	Results not clearly related to objectives OR expresses limitations in terms of “operator error” or similar untestable factor.	___ Grammar/Spelling