

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

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 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</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. Uncertainties appropriately based on propagation of experimental error or on appropriate statistical methods. Includes error bars on figures as appropriate. Bases of uncertainties and error bars appropriately chosen and clearly defined.
B	
C	Some important values quoted without uncertainties, or some uncertainties not appropriately based on propagation of experimental error or on statistical methods.
D	
F	Most values quoted without uncertainties <i>and</i> error propagation or statistical methods lacking <i>or</i> basis for most uncertainties unclear <i>or</i> heavy reliance on “operator error” <i>or</i> major errors in error propagation or application of statistical methods.

Report Overall – Quantitative vs. Qualitative

A	Discussion is almost exclusively quantitative. Words like “significant” and “negligible” have clear meanings. Logical presentation.
B	Almost exclusively quantitative. Words like “significant” and “negligible” have clear meanings. Confusing in spots.
C	More quantitative than qualitative. May be confusing in spots.
D	
F	More qualitative than quantitative, <i>and</i> frequently confusing or difficult to follow.

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 groups, scales consistent). Units and proper number of significant figures used. Error bars are included where appropriate.	Style & mechanics (+ / -)
B	Effective choice between tables, graphs, and text. Presented in a logical order. Presentation allows comparisons and observations of trends with effort. Units and proper number of significant figures used.	___ Style
C	Presentation allows comparisons and observations of trends with effort. Choice between tables, graphs, and text could be more effective <i>or</i> order of presentation somewhat confusing <i>or</i> some units missing.	___ Clarity
D		___ Format
F	Presentation incomplete or makes comparisons and observations of trends difficult. Presentation seems geared to convenience of writer, not reader <i>or</i> generally confusing.	

Objective

A	Summarizes design objective. Clearly states experimental objectives and relates them to design objectives.	Style & mechanics (+ / -)
B		___ Style
C	Adequate experimental objectives listed, but not clearly related to the design objective.	___ Order
D		___ Content
F	Design objective not stated or adequate experimental objectives not specified.	___ 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 or were calculated using the correct analysis.
B	All results related to the objectives are shown. Most results appear reasonable.
C	Most results related to the objectives are shown. All results appear reasonable.
D	
F	Several results related to the objective are missing <i>or</i> most results appear unreasonable or were incorrectly calculated.

Experimental Methodology

A	Deviations from prelab test matrix noted and reasonably explained. Deviations from prelab Data Analysis noted and reasonably explained.	Style & mechanics (+ / -)
B	Deviations from prelab test matrix and Data Analysis noted. Explanations weak.	___ Style
C	Deviations from prelab test matrix and Data Analysis noted. No explanations.	___ Order
D		___ Content
F	Deviations from prelab test matrix or prelab Data Analysis not noted.	___ Grammar/Spelling

Sample Calculations

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

Discussion

Statistical Analysis

A	Complete and appropriate statistical analysis included. Evaluation of data, results and/or model equations based on variance, correlation coefficient, and residual plots. Comparison of values based on hypothesis testing (e.g. t-test) as appropriate.
B	
C	Some minor errors or omissions in criteria presented above.
D	
F	Major errors in application of statistical methods.

Analysis of Results

A	Results and/or trends are correctly explained by reference to engineering principles or literature values. Unusual results are noted with plausible explanations.	Style & mechanics (+ / -)
B		___ Style
C	Minor errors in analysis of results and/or trends as described above. Most unusual results are noted.	___ Order
D		___ Content
F	Most unusual results go unnoted or more than one major error in interpretation.	___ Grammar/Spelling

Conclusions

A	Clearly states key results and relates them directly to objectives. Expresses limitations 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. Expresses limitations in terms of “operator error” or similar untestable factor.	___ Grammar/Spelling