

Chemistry of Coatings Assessment Rubric

Team/Student: _____

Date: _____

Topic (Weight)	Unacceptable (0)	Marginal (1)	Acceptable (2)	Exceptional (3)	Points
Discover and Learn: Homework (1)	Only one section completed and without complete sentences.	One of two sections were completed with responses but were missing complete sentences.	Both sections were completed with responses, however they were missing complete sentences.	Both sections were completed with extensive responses and complete sentences.	
Pre Lab Questions (1)	Only one to two questions were answered.	Clear and complete answers for almost all questions.	All questions were answered but some were incomplete.	Clear and complete answers to ALL questions.	
Purpose (1)	The purpose of this lab was missing.	The purpose of the lab stated did not match the objectives.	The purpose of this project was stated but not clear.	The purpose of this project was clearly stated.	
Design Problem and Boundaries Hypothesis (1)	Little or no grasp of problem. Incapable of producing a successful solution. <i>The hypothesis is missing or unrelated.</i>	Some understanding of problem. Major deficiencies that will impact the quality of solution. <i>Hypothesis does not include "if", "then". Hypothesis may not be testable. Hypothesis is not based on observation or research.</i>	Overall sound understanding of the problem and constraints. Does not significantly impair solution. <i>Hypothesis is stated using the "If then format. Hypothesis is testable and is based on observation and general knowledge.</i>	Clear and complete understanding of design goal and constraints. <i>The hypothesis is clearly stated using the "If ... then... because format. Hypothesis is testable. Hypothesis is based on observation and research.</i>	
Alternative Designs Procedure-Variables (2)	Only one design presented or clearly infeasible alternative given. <i>The procedure was unable to be replicated and little or no grasp of the problem and variables.</i>	Serious deficiencies in exploring and identifying alternative designs. <i>There were unclear directions with only one trial and some understanding of the problem and variables.</i>	Alternative approaches identified to some degree. <i>Procedure was unclear with multiple trials Overall sound understanding of dependent and independent variables along with proper controls.</i>	Final design achieved after review of reasonable alternatives. <i>Clear procedure with multiple trials present dependent and independent variables along with proper controls.</i>	
Application of Engineering Principles Data (2)	No or erroneous application of engineering principles yielding unreasonable solution. <i>The data is incomplete and poorly organized.</i>	Serious deficiencies in proper selection and use of engineering principles. <i>Data is poorly organized and presented. Errors present in table.</i>	Effective application of engineering principles resulting in reasonable solution. <i>Data is organized and clear. Qualitative data is gathered. Tables are organized but some data is missing.</i>	Critical selection and application of engineering principles ensuring reasonable results. <i>Data is organized and clear. Qualitative data is gathered. Tables are organized and clear.</i>	
Final Design Analysis (3)	Not capable of achieving desired objectives. <i>No mention of the relationships and patterns in the data.</i>	Barely capable of achieving desired objectives. <i>The data lacks detail. Patterns and relationships are based on misconceptions.</i>	Design meets desired objectives. <i>Important relationships, patterns and changes are stated based on observation through the investigation</i>	Design meets or exceeds desired objectives. <i>Important relationships, patterns and changes are stated based on observation through the investigation</i>	

<p>Interpretation of Results</p> <p>Conclusion</p> <p>(2)</p>	<p>No or erroneous conclusions based on achieved results.</p> <p>The outcome of the investigation does not relate to the hypothesis. Poor use of data to explain results.</p>	<p>Serious deficiencies in support for stated conclusions.</p> <p>The outcome of the investigation does not adequately relate to the hypothesis. Minimal use of data is used to explain results.</p>	<p>Sound conclusions reached based on achieved results.</p> <p>The outcome of the investigation is explained and whether the hypothesis is rejected or accepted based on the data. Data is used to explain. The importance of the experiment is explained.</p>	<p>Insightful, supported conclusions and recommendations.</p> <p>The outcome of the investigation is explained and whether the hypothesis is rejected or accepted based on the data. Data is used to explain. The importance of the experiment is explained along with potential for error and ways to expand.</p>	
<p>Post Lab Questions</p> <p>(2)</p>	<p>Only one to two questions were answered.</p>	<p>Clear and complete answers for almost all questions.</p>	<p>All questions were answered but some were incomplete.</p>	<p>Clear and complete answers to ALL questions.</p>	
<p>Writing/Mechanics</p> <p>(1)</p>	<p>The entire report was written in first person and had many grammatical and writing errors.</p>	<p>The entire report was written in third person and only had one to two grammatical errors; however, the writing was difficult to follow.</p>	<p>The entire report was written in third person and only had one to two grammatical errors. The writing was easy to follow.</p>	<p>The entire report was written in third person and was free from any grammatical errors. The writing was easy to follow.</p>	
<p>OVERALL PERFORMANCE</p>	<p>Unacceptable</p>	<p>Marginal</p>	<p>Acceptable</p>	<p>Exceptional</p>	<p>TOTAL</p>
<p>POINTS REQUIRED</p>	<p>0-29</p>	<p>30-37</p>	<p>38-42</p>	<p>43-48</p>	