Project 2.2.3 Renewable Insulation Rubric

Score: _____/60 Points Total

Documentation Deliverables [28 points]

Topics	4 points	3 points	2 points	1 point
Professional Appearance	Includes all required sections; includes page numbers and appropriate section headings. Font and spacing choices are appropriate for each type of text and consistent throughout document.	Includes most required sections; includes page numbers and appropriate section headings. Font and spacing choices are appropriate.	Does not include all required sections; includes page numbers; section headings could have been better organized. Font and spacing choices not appropriate.	Missing many sections; does not have page numbers or section headings. Lack of care put into layout and organization.
Title Page & Table of Contents	Includes all components required for a complete title page and table of contents. Page numbers and sections are consistent and accurate.	Includes 80% or more of the necessary components for a complete title page and table of contents. Some page numbers or sections are inaccurate.	Includes 60% or more of the necessary components for a complete title page and table of contents. Many page numbers or sections inaccurate.	Title page and table of contents unorganized and inaccurate.
Design Brief	Is grammatically correct and includes a clear and concise description of the problem and design statement; all constraints and deliverables listed neatly.	Is grammatically correct; problem and design statement unclear; all constraints and deliverables listed.	Has some grammar mistakes; problem and design statement unclear; missing some constraints and deliverables.	Has many grammar mistakes; missing many important parts of the design brief
Material Description & Product Lifecycle (x2)	Composition of insulation is described clearly. Each material has an accurate product lifecycle **detailing extraction, production, distribution, use, reuse, and recycle stages. Sources cited in-text properly using APA citation format.**	Composition of insulation is described. Each material has a product lifecycle containing extraction, production, distribution, use, reuse, and recycle stages. Sources cited in-text.	Each material has a product lifecycle but missing one of the extraction, production, distribution, use, reuse, or recycle stages. Sources cited.	Some materials have a product lifecycle detailing extraction, production, distribution, use, reuse, and recycle stages. Sources not cited.
Data Summary & Line Graph	Data displayed accurately as a line graph. Inside and outside temperature values are clearly displayed with **legend, title, and appropriate axis labels**.	Data displayed as a line graph. Inside and outside temperature values are displayed with legend, title, and appropriate axis labels.	Data displayed as a line graph. Inside and outside temperature values are displayed but missing legend, title, or appropriate axis labels.	Data displayed as a line graph but inaccurate. Inside and outside temperature values are displayed but unclear..
Calculations & Summary	Important data from experiment summarized. All calculations done correctly and typed neatly. **A paragraph is included that clearly describes the performance of your insulation in comparison to other common insulation.**	Important data from experiment summarized. All calculations done and typed neatly. A short paragraph is included that describes the performance of your insulation.	Important data from experiment summarized. All calculations done and typed neatly.	Some calculations done and typed neatly.

Insulation Design [8 points]

Topics	4 points	3 points	2 points	1 point
Insulation Design	Material selection was thoughtful and deliberate. Insulation has a maximum thickness of 2 in., a uniform composition, and does not exceed the dimensions of the top surface of the heat box.	Material selection was thoughtful. Insulation has a maximum thickness of 2 in. and has a uniform composition.	Material selection thought process is not clear. Insulation has a maximum thickness of 2 in.	Insulation thickness exceeds 2 in.
Engineering Economics	The design is the most environmentally-friendly with the least amount of impact on current resource constraints. Insulation produces a high R-value.	The design is environmentally-friendly with little impact on current resource constraints. Insulation produces a moderate R-value.	The design is somewhat environmentally-friendly with some impact on current resource constraints. Insulation produces a low R-value.	Material selected is not environmentally friendly, or cannot be recycled. Insulation produces a low R-value.

Individually Scored Items [16 points]

Topics	4 points	3 points	2 points	1 point
Materials Brainstorm & Research	Section titled clearly in your notebook for brainstorming ideas Sketches of composite insulation clearly labeled.. Short facts & research done about the materials is recorded neatly for each brainstormed ideas.	Section titled in your notebook for brainstorming ideas and sketches. Short facts & research done about each material.	Material brainstorming ideas recorded and some short facts included.	Material brainstorming ideas recorded.
Calculations	Student completes and documents all calculations correctly with proper units. Care is taken to present calculations clearly and legibly.	Student completes and documents all calculations correctly. Calculations are clear and legible.	Student completes and documents all calculations but contains some mistakes. Calculations are legible.	Student completes and documents calculations but many mistakes are present. Calculations difficult to follow and read.
Project Log	Provides a neat and accurate description of tasks completed each day with specific **details** about **personal contributions** to the project. Complete sentences used.	Provides an accurate description of tasks completed each day with specific details about personal contributions to the project.	Provides a description of tasks completed each day.	Provides a description of tasks completed in the project.
Conclusion Questions	All questions answered thoroughly and correctly with full explanation demonstrating mastery of concepts learned.	All questions answered correctly with explanation demonstrating concepts learned.	Most questions answered but incorrectly or lacking explanation demonstrating concepts learned.	Some questions answered but lacking explanation and demonstrating concepts learned.

Productivity & Teamwork [8 points]

Topics	4 points	3 points	2 points	1 point
Group Responsibilities	All team norms recorded in team spreadsheet. All norms are appropriate for team success. Consequences are listed and appropriate.Gantt chart created neatly at the project start and organized for ease of use. Team responsibilities are **DIVIDED EQUALLY & FAIRLY**, representing accurately each person's role in the project. Gantt Chart updated to reflect actual work done each day.	All team norms and consequences recorded. Gantt chart created neatly. Team responsibilities represent accurately each person's role in the project. Gantt Chart updated to reflect actual work done each day.	Gantt chart created. Gantt Chart updated to reflect actual work done each day.	Gantt chart created.
Group Interaction	All members are on task at all times and contribute in a positive manner. Members settle disputes productively and respect each other at all times. Consequences enacted appropriately when norms are broken.	Most members are on task at all times and contribute in a positive manner. Members settle disputes productively.	Most members are on task some times and contribute in a mostly positive manner. Members are able to settle disputes.	Some members are off task and do not contribute in a positive manner. Members are unable to settle disputes productively disrespectful at all times.