**Academic Prompt with Rubric**

**Analyze Data**

**IE 433 Metrology and Measure**

**Assignment Steps**

1. Understand the engineering problem and nature of the parameter to be measured

2. Identify suitable and appropriate methodology and equipment.

3. Familiarize with the equipment and measuring techniques.

4. Design the experiment with all necessary components completely

5. Execute the experiment.

6. Document all the data and complete the computations, if any.

7. Account for admissible errors

8. Interpret the results and tabulate the significant results in the required format.

**Rubric for the Assignment**

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| --- | --- | --- | --- | --- |
| **Performance indicators** | **(1)****Emerging** | **(2)****Developing** | **(3)****Proficient** | **Scores & comments** |
| Design experiment | Designs an experiment, but it has serious errors or is missing major components or is inappropriately constructed. | Designs an experiment that is basically correct and reasonably complete but some minor details are missing or inappropriately included. | Experiment was correctly designed and shows a good understanding of the engineering problem. |  |
| Conduct experiment | Some understanding of the selection and use of the measurement equipment and procedures but not sufficient to conduct the experiment. | Good understanding of the selection and use of the measurement equipment and procedures but minor errors when conducting the experiment. | Complete understanding of the selection and use of the measurement equipment and procedures resulting in correct and usable results. |  |
| Analyze data | Shows some understanding of necessary operations and/or analysis tools but makes significant omissions or errors. | Shows understanding of necessary operations and/or analysis tools and is correct except for minor computational errors. | Understands the necessary operations and/or analysis tools and executes and documents all computations correctly. |  |
| Interpret data | Misses major points of significance of the results. | Shows understanding of most major points of the results. | Shows understanding of all major points of the results. |  |
| **Overall point and comments** |

**Scale:** 12/11=A, 10/9=B, 8/7=C, 6/5=D, 4 or less=F