Scientific Writing Handout

Scientific Writing Elements

- **Introduction:** Overview on purpose/goals/findings/data
- **Material/Method:** Elaborate how data was obtained
- **Result:** Focus on providing data objectively
- **Discussion:** Focus on interpreting data subjectively

**Introduction**

Sets tone by providing background information
- Introduce topic ○ Start broad, make it coherent to those not familiar with the field ○ Narrow down to question/hypothesis being asked/answered
- Define difficult terminology ○ Abbreviations ○ Jargon
- Discuss main points in brief ○ What was done ○ How it was conducted ○ Explain findings ○ Elaborate on findings

**Material and Methods**

Straight forward explanation on how the experiment was conducted
- The Materials and Methods section should be written in the past tense
- Indicate items used for experiment
- Demonstrate that you used scientifically valid methods and provide the reader with enough information to recreate your experiment
- Ensure chronological order ○ clearly state the procedural steps you took ○ remember to include the model numbers specific settings of all equipment used
- It is important to provide enough information that the reader can follow your methods without referring to the original source

**Results**

Objective point of view
- Identify all valuable tables, graphs, and figures.
  ○ Add a couple of descriptive sentences that summarizes each result, referring to corresponding table and figure numbers
- Write a short summary about each data set
- Present key findings in a purely objective manner and lay the foundation for the Discussion section.
Discussion/Conclusion

Subjective point of view

- Discussion should form a self-contained story tying together your Introduction and Results sections
- Interpret your results subjectively
  o Begin by explicitly stating the main finding of your research
  o Address your question and hypotheses with specific evidence from your results
- If there are multiple possible interpretations of a result, clearly lay out each competing explanation
  o Presenting and evaluating alternative explanations of your findings will provide clear opportunities for future research

Reference