Research Reports

Content and Format

http://www.columbia.edu/cu/biology/ug/research/paper.html#format

Introductions

- Move 1: Establish topic and significance (“establish a territory”)
  - By claiming that the topic is of central interest to the field *and/or*
  - By making generalization(s) about the topic *and/or*
  - By reviewing previous research
- Move 2: Establish need for present research (“establish a niche”)
  - By indicating a gap in previous research *or*
  - By raising a question about previous research *or*
  - By proposing an extension of previous research
- Move 3: Introduce the present research (“occupy the niche”)
  - By outlining the purpose and/or main features of the study *(obligatory)*
  - By describing the findings or conclusions of the study *(optional)*
  - By previewing the organization of the report *(optional)*

Basic Format

What problem did you try to solve?

Why is it interesting?

The introduction summarizes the relevant literature so that the reader will understand why you were interested in the problem you chose.

One to four paragraphs should be enough.

End with a sentence explaining the specific problem you solved.

How did you solve your problem? There should be enough information here to allow another engineers to repeat your process (with effort, of course).

If you had a complicated protocol, it may be helpful to include a diagram, table or flowchart to explain the methods you used.

Do not put results in this section.

Mention relevant ethical considerations.

This is where you present the results (especially testing results) that you got.

Use graphs and tables if appropriate, but also summarize your main findings in the text.

Do NOT discuss the results or speculate as to why something happened; that goes in the Discussion section.

You don't necessarily have to include all the data you've gotten during the semester. This isn't a diary, just a report of final results.

Use appropriate methods of showing data. Don't try to manipulate the data to make it look like you did more than you actually did.

Highlight the most significant results, but don't just repeat what you've written in the Results section.

How do these results relate to the original problem?

Does the data suggest that your solution worked?

Are your results consistent with what other engineers have reported? If your results were unexpected, try to explain why. Is there another way to interpret your results?

What further research would be necessary to answer the questions raised by your results?

How do your results fit into the big picture?

End with a one-sentence summary of your conclusion, emphasizing why it is relevant.

1. In the **text**, cite the literature in the appropriate places:

Scarlet (1990) thought that the gene was present only in yeast, but it has since been identified in the platypus (Indigo and Mauve, 1994) and wombat (Magenta, et al., 1995).

2. In the **References** section, list citations in alphabetical order. Use APA format.

This section is only necessary if you used outside sources.

Introduction

Methods

Results

Discussion

References

Assignment

- **Rough draft of your introduction**
- **Rough draft of your Methods section**
- **Have electronic copy ready next week**