PHYS310 Paper Grading Criteria

First draft - 20 points
- Shows significant effort
- Complete draft

Final version - 80 points
- **Most important:** significant revisions in response to feedback, didn't ignore significant feedback
- Structure: make sure information is ordered in a way that makes sense to the reader (i.e. provide info before you reference it)
- Abstract:
    - Concise yet complete
    - What we are studying
    - How we study it
    - What we find
    - Not an introduction!
- Introduction:
    - Set up the problem
    - What are you doing?
    - Why is it interesting?
    - Shows that you have done a literature search - needs to cite real papers and/or books
    - End introduction with an overview of the rest of the paper ("In Section II, we …")
- Methods:
    - Clear & complete
    - Reader can tell what you're doing and reproduce it
- Results/discussion:
    - For each graph (or set of similar graphs), discuss the graph both statistically (if appropriate) and scientifically - what does this mean?
    - For scientific discussion of graphs, why do they have the shape they have? Is it what you expect and why? If there are departures from what you expect, what are possible explanations? (Such as experimental factors/limitations)
    - If you measure numbers, what do they mean? Are they statistically consistent (how many sigma different) with theoretical predictions or established experimental values?
- Discussion/conclusion:
    - Wrap things up
    - Pair with introduction - tie back to the goals set in introduction
    - Why our result matters: don't repeat introduction - emphasize take-away and future work
    - Future work can have 2 categories:
        - (optional - as appropriate) What we would do if we had more time on this lab
        - (essential) Future research questions inspired by this research
    - Be creative in future work ideas - okay to be "wrong"
- Figures & captions:
    - Every figure and table must be referenced in the text
    - Captions should make sense (roughly) without reading the text
    - Labels large enough to read
- Equations:
    - Any quantity you plot/discuss should be defined, including equations used to calculate it
- Style: Check grammar and spelling, formatting