Your Research Paper: How to Make Your TAs Happy and Achieve Better Grades
Format

- 6 – 8 pages (NO more than 10 max including references and figures)

- Double spaced (NO single spacing)

- Grammatically correct, spell-checked, no fragmented sentences

- Should have headings to differentiate sections of the paper

- At least 5 references, of which at least 60% must be primary references (i.e., peer-reviewed journals, not a full list of Wikipedia articles)
• Makes clear choice of topic (there will be some overlap in the class, that is OK)
• Has several references integrated into the text that contain information and chemistry pertinent to your topic
• Is approximately 1 page in length, with figures and text to familiarize your reader (me) with the topic without having to read the literature
• Does not cite other sources without using the appropriate reference (or plagiarism, in layman’s terms)
• Should not be pulled directly off one website
The methodology/results section...

• Is approximately 1-2 pages in length
  – Half of the section is devoted to specific references used to describe the traditional manner by which your process has been performed
  – Some of this may directly overlap with the introduction, that is OK

• The second half should contain a description of recent advancements of your selected topic, especially in the realm of making them “greener”
  – Be sure to adequately describe what has been done that has made them so

• Discuss in clear, explainable terms any environmental issues that have arisen or may arise due to the process related to your topic.
The proposal section...

• Should be a synthesis of knowledge gained from your references, your time in class, and your chemical intuition.

• Should be ~ ½ - 1 page in length.

• Will contain a proposal of how YOU (not the literature) might improve a process and make it greener.

• Should have a consideration for life-cycle assessment (LCA)

• Does not need to perfect, does not even necessarily have to work in practice (as we aren’t actually doing this).
  – Just make it clear that you are thinking about class topics outside of class examples.
• Should sum up classic ideas and your new ones, including focusing on:
  – important predictions
  – numbers/data
  – major concepts.

• Should act as a mirror to the introduction, in a way.
  – An introduction begins general and becomes more specific by the end.
  – The best conclusions start specific and end general in a manner mirroring the introduction.

• Should be about ½-1 page length.
The figures...

• Should be made in ChemDraw or other chemistry drawing/rendering programs.
  – As there are about 100 of you and only 1 public computer on our hall with this software, as long as the figures are easy to read and make decent chemical sense, you will not be penalized.

• Such as excel plots, should be remade in the Microsoft Office suite where possible.
  – In cases where you may want to screen capture images from a reference, this is OK unless the resolution is terrible, then I expect you to remake them.

• Should integrate well into the paper (do not make a separate section for them).
  – All tables and figures should have written captions such as “Figure 1. Graphical Representation of a...”: See any random reference paper for a better idea.
  – Schemes do not get captions.
The references...

- **Should be in ACS format**
  - Example for a journal article:
  - Example for a book:
  - Example for a website:

- At least 60% of references should be of the first two types

- Minimum of 5 references (the best papers have 8-10)