

# The Final Report

**Length:** A total of no more than eighteen written pages are expected in the *body* of the report. Appendices and references are *in addition* (not to exceed 10 pages for the appendices). These designations are based on 10 point Times with 1.5 line spacing.

**Title Page:** Include dates of experiment, group names, and experiment leader.

## Summary and Recommendations

What are the significant findings that you have made and (briefly) how did you find them experimentally? What do you recommend should be done next? (2–3 paragraphs)

## Table of Contents

Sequentially numbered pages from below. Each section title should be specific as to what it contains, *e.g.*, “Theory of Catalytic Methanation Kinetics,” not just “Theory.”

## Abstract

A brief view of what you did and how it contrasts with the prior studies. Restate the conclusions and give any *quantitative* findings. (one paragraph; one half page.)

## I. Introduction and Background

Describe the prior studies and their results relevant to your studies. Introduce any new theoretical bases for your analyses. You should **cite the literature** including **new references** and prior student reports, properly cited. (2–3 pages)

## II. Experimental

What did you do that was different from prior studies (by prior groups). Do not describe the experimental setup in any detail here (unless you are the first group to perform that experiment). Focus on any changes that you employed in your studies. (2–3 pages)

## III. Results

Document your results and comment on the trends that you have found. Refer to figures and tables where these results are presented. Most figures and tables should be placed in appendices and referred to in the main text. Do include a few figures in the main text when they are crucial and central to your results: *e.g.*, show a plot of product formation versus time. (5–6 pages)

## IV. Discussion

How do the results relate to the prior work (in section I)? Are they consistent with the theories presented? For example, show a plot of product formation versus time with a first order theoretical curve overlaid on the graph. Provide the arguments for your conclusions and recommendations. (5–6 pages)

## V. Conclusions

Summarize what you found in a few sentences. If someone read *nothing* else in the report, they should still be able to understand what you found. (1–3 paragraphs)

## References (bibliography)

Must provide all necessary information required for another individual to find the reference in question. If you use books, refer to specific pages used. If you cite prior reports, cite authors and dates as well as specific pages. Chapter 14 of *The ACS Style Guide* [Coghill, A. M.; Garson, L. R., Eds., Third Edition. Washington: Oxford, 2006] and/or any chemistry/physics/engineering journal article's bibliography are reasonable starting points.

Proper citations giving page numbers (for books) should be provided if only a portion of the book was relevant and was used. Citations could either be numbered or use the first author's last name **and the date** in the text.

Note that "data" is a plural noun and "et" (in et al.) is not an abbreviation.

**Figures and their captions should essentially stand alone.** The same applies to tables and other floating objects. Envision your boss (or colleague) skimming your document and spotting an interesting figure. They will need to understand the important points of the figure or table without reading the entire document.

**APPENDICES:** Sequentially numbered figures and tables of data referred to in the text but peripheral to the general message. Descriptive captions and titles should be included. Details of instrument calibrations, the theory and derivations not covered in the main text, a detailed description of the apparatus, sample calculations, any code used analyze data, and intermediate results (if appropriate). Copies of your **lab notebook pages** and your SAFE forms should be attached but need not be numbered.

## PLAGIARISM & ACADEMIC HONESTY

You will hand in your own work! Copying as much as a sentence from another source without citing the source and putting the passage in quotes is illegal, academically dishonest and **will result in failure!** If you borrow figures of graphs from another source, these must be identified and the source cited whenever and wherever you use them!!

All of your final reports must also be submitted an email attachment to Professor Conner ([wconner@ecs.umass.edu](mailto:wconner@ecs.umass.edu)) in addition to a printed version submitted to the instructors by 4:00 pm on the date specified on the schedule. These will be evaluated (electronically) for originality via TurnIt In.

## WRITING STYLE

Please try to invert fewer of your sentences. When you invert your sentences, putting the conclusions and parenthetical expressions at the front, or starting with "in order to," it is often that the reader with whom you are wishing to communicate will have, based on their desire to understand, a difficult time, and, thus, in order to comprehend what you are saying, have to reread the sentence several times.