

## Guidelines for preparing CHE 260 lab reports

**Due Date:** One week after the lab is done. Instructions will be provided on how to submit the lab report. 10% will be deducted for each day that the lab report is late.

**One report is required for each group performing an experiment.** Part of the purpose in assigning lab reports is to give students experience in writing reports which are comprehensive, yet concise; a valuable skill for engineers. Copying of reports, in whole or in part, will be considered plagiarism.

**Reports are limited to a total length of 10 double-spaced pages.** This includes all relevant tables and figures. Do not use a font smaller than 12 pt. Reports should be written so that any first year engineering student could understand the report, regardless of whether that person has actually conducted the lab. The reader should understand what you have done, why you have done it, and what you have concluded. Overall structure and writing quality will be factors in the lab report mark.

Please make sure you include the following:

- The names and student number of all members of the group
- The PRA section
- The name of the lab

**The following structure is recommended:**

**(3%) Title:** should be short, precise, and convey the point of the report.

**(7%) Abstract:** should summarize, in a few sentences, the content of the report – what you did and why it was important. **Points will be deducted for a vague or irrelevant abstract.**

**(10%) Introduction:** state why the work reported is useful, where it fits into the bigger picture of a discipline or science/engineering in general. State clearly the objectives of the experiment you are conducting. **Points will be deducted for irrelevant theory.**

**(10%) Experimental method:** describe the apparatus and procedure used in the experiment. Diagrams are encouraged where appropriate! **Points will be deducted for missing equipment, irrelevant information or vague descriptions.**

**(35%) Results and Discussion:** These can be together or in separate sections

**Results:** present the data obtained, including graphs where appropriate. Number and title graphs clearly, and draw attention to key points in tables or graphs with a sentence. **Points will be deducted for missing equations, unidentified variables, irrelevant or unlabelled diagrams and tables, missing units, improper use of significant digits, missing error values, missing critical figures, confusing figures, figures that are not referenced in the text, missing data.**

**Discussion:** interpret the data obtained, and explain how data corroborates (or does not corroborate) with the hypotheses being tested. Explain what can be clearly understood from the

results, and also the logical deductions you can make based on your results. Answer any specific questions asked in the lab hand-out. Estimate the magnitude of systematic errors that could influence results, and analyze the error – was it avoidable? What was the cause of error? Include a short discussion of established theory or relevant research, and how this compares with your work in the lab. How well has the theory been illustrated? Relate your results to your experimental objectives, and if applicable, you can relate your outcomes to others in your lab. Comment on the strengths and limitations of the experimental design. **Points will be deducted for irrelevant information or theory, error in theory, incorrect sources of error, sources of error missing, insufficient discussion.**

**(10%) Conclusion:** Sum up the results of your experiment in a short paragraph – what is known as a result of the experiment? **Points will be deducted for vague or irrelevant conclusions.**

**(5%) References:** list all of the documents that you refer to in your report. Number the references sequentially in the text of your report, in the order of their appearance, and list them in the same order in the references section of your report. **Points will be deducted for missing references and referencing format errors.**

**(20%) Overall Structure and Flow of Lab Report:** The report should be easy to read and have a logical structure. Ideas should be well –organized so that the reader can follow the discussion easily and understand what was done in the experiment and how conclusions were drawn.

**Other Potential Deductions:**

Excessive Length: up to 15% deduction

Grammatical, Spelling, Sentence & Paragraph Structure: up to 20% deduction

Also note that points will be deducted from components of the lab for lack of explanation, irrelevant information, incorrect information or missing main themes/outcomes.

**Other Reminders:**

-Please keep in mind that demonstrating calculations is not necessary. You should include important formulas and results, but detailed calculations are not appropriate for a formal lab report

-You can summarize your procedure: use the main points, do not include every detail. Your procedure in your formal report can be in paragraph or list form.

-Please use headings to separate the different sections of your report

-Your report must be type-written

-The report should be written in a way that even those who hadn't conducted the lab would understand its purpose, procedure and what was discovered.

**Reference Examples:**

JOURNAL: Author(s), Journal Title. Volume (year) page number

BOOK: Author(s). *Book Title*. Publisher, city of publication, year of publication, page(s).

WEBSITE: Simply give the website address.

If you are using your lab book or course notes, reference as follows:

Author OR Course Name. *Name of Document*. Year OR Year OR “Year Accessed (2008)”