CIVE 353 - Geotechnical Engineering I
Instructions for Preparing Laboratory Reports

University of Waterloo
Department of Civil Engineering

This guide sets expectation levels for the laboratory reports. ***A professional and complete report is expected for each exercise.***

<u>Each lab MUST have</u>

1. Title page
2. Letter of submittal
3. Table of contents
4. Introduction
5. A reference to the procedure
6. Discussion (with answers to lab questions)
7. Clear, concise, and labelled figures in accordance with the lab requirements
8. Clear, complete and neat sample calculations
9. Raw data
10. Conclusions
11. References (if applicable)

All members of the lab group must sign the letter of submittal, and the letter should be consistent with current engineering standards. The Table of Content must include a list of tables, figures and appendices. Raw data and sample calculations should appear in separate appendices.

The introduction should contain an overview of the topic, the applicability of the laboratory to geotechnical problems, and a summary of the topics to be investigated in the report. No data or conclusions should be presented in the introduction. If information is extracted from the text then ***it must be referenced***.

Questions are to be answered clearly in the discussion section in paragraph form. *Yes* and *No* answers are not acceptable. Questions of a numerical nature should be summarized with a quick overview of how the calculations were performed and either a table of values or a reference to a spreadsheet included in the lab report. Always state your assumptions. In the case of drawing best-fit curves always discuss your reasoning for the shape of the curve, or why any outlier data points were excluded (if applicable). Be wary of polynomial trend lines they can appear to "fit" almost any data.

The statement "experimental error" does not address inconsistencies between lab data and theoretical data. If there were specific errors in the performance of the lab (and there always are) state them, but also use your engineering judgement (and available text book resources) to assess if there could be other reasons for data not matching. Avoid sweeping generalizations, and you cannot quote your TA.

Conclusions should summarize all of the results from the discussion. No new information can be presented here. The conclusion section should be readable and flow in paragraph form.

Extra information:

- Do not waste a lot of time imbedding figures in the text.
- Sometimes a compass and graph paper are better than Excel.
- Neat handwritten sample calculations are a lot quicker than using the Equation Editor.
- There are no bonus points for the title page and staples are as good as spiral bindings.

Plagiarism is a serious offence. It only takes a few minutes to reference a section properly.