

Memo

To: CIVL315 Students
From: Bernard Laval
Subject: CIVL315 Labs

You and your lab group are a consulting firm who's been contracted by NEARCreek Industries Ltd (a large engineering and construction company) to provide experimental data to support a number of their projects. The interaction may be formal where there are set of requirements for the deliverable (Lab 1). They may also be informal, where you've simply received an email asking for a few tests to be conducted (Labs 2, 3 and 4).

How you respond to these requests are up to you; no one is going to tell you exactly what you need to do. If you are confused, use your judgment. Requirements can often be vague because sometimes clients don't know what they want. You are expected to behave as professionals – roles you will occupy in only a few years. Not all answers can be found in textbooks - you will have to do some research on certain topics.

The TAs in the course will occupy two roles: During the lab session itself, they will act as TAs, explaining the setup and helping you conduct the experiment. Outside of the lab session, they are Project Engineers with NEARCreek. They are the senior engineers of your client - interact with them as such.

Evaluation will effectively be the likelihood that your consulting firm would be hired again. This encompasses all interaction between yourselves and the 'client,' the quality of the reports, presentations, communication, etc. For all intents and purposes, your grade will represent your professionalism. As such we reserve the right to not mark a report that is of low quality. It will be returned and you may resubmit.

For Labs 2, 3, and 4

- All lab reports are to be written up by the group.
- Lab reports are due two weeks after the lab session (late submissions will not be accepted).
- Each lab report must be submitted in pdf format by one group member via the Canvas system.
- Write up these reports as informal reports about 5 pages in length using the memo format below.

Abstract

- Purpose of report
- Summary of results

Body

- Purpose of lab work
- Summary of equipment used
- Summary of procedures used
- Description of any problems that occurred
- Results of test addressing the specific client requests

Conclusions

- Summary of results
- Implications of results for future work

For Lab 1:

- No lab report is required; rather you will, as a group, complete a design project based on the data collected during the lab. This design project will be presented as a group formal report and 5 minute oral presentation to the client. Details about the design project can be found in the Lab 1 Manual posted on Canvas.

Lessons Learned

An effective practice to become high-performing is to identify, reflect on, and correct our past errors in our future actions. **When writing your lab report, you are required to review your last lab**, identify where you lost marks, and include a section in your new lab that identifies your last lab's errors. You might call this section 'lessons learned' or another title of your choosing.

This doesn't apply to your first lab for obvious logistical reasons.

Resources defining and supporting you to achieve the expected standard:

Figures:

Figures should be properly referenced and labelled.

General guidelines for referencing and labelling technical figures are at:

<http://www.monash.edu.au/lis/lonline/writing/science/process/2.1.xml>

Concrete examples of properly labelled figures are at:

https://www.monash.edu/__data/assets/pdf_file/0003/567156/guidelines-writing-reports.pdf

An example with good figures is

<http://vancouver.ca/files/cov/pedestrian-safety-study-2012-final-report.pdf>

Don't use fancy interpolation unless it can be justified.

Make sure fonts in the figure are similar in size to the font in the rest of the document.

Keep your figures as simple and uncluttered as possible to make the points you intend to make.

Readability:

Organizing your writing's *content organization* to start with what your audience knows, then building to your conclusion in a series of logical steps will improve your audience's readability. In addition, your sentences should be easy to read aloud.

Method:

Student teams often struggle to write the method section of lab reports. The tasks you undertook in the lab should be summarized in your own words.

Significant Figures:

Sig figs should be considered in lab reports and all other technical writing.

Lab Memo Marking Scheme (Labs 2, 3, and 4)

3 Memo Presentation broken down as follows:

- 1 Language (spelling? grammar?)
- 1 Neatness and quality of figures (including legends, and axis labels with legends)
- 1 Completeness (does it contain all required sections?)

7 Memo Content broken down as follows:

- 1 Summary of work and Description of problems
- 3 Results
- 2 Addressing client request
- 1 Implications of results

Formal written Report Marking Scheme (Lab 1)

3 Report Presentation broken down as follows:

- 1 Language (spelling? grammar?)
- 1 Neatness and quality of figures (including legends, and axis labels with legends)
- 1 Completeness (does it contain all required sections?)

7 Report Content broken down as follows:

- 1 Summary of work and Description of problems
- 3 Results
 - Presentation of design
 - Feasibility of design
 - Is the analysis technically correct?
 - Cost
- 2 Addressing client request
- 1 Implications of results