

ESET 444 – Building Energy Management Systems

Structure of Lab reports

The lab report should have the following parts:

Title page

- The title page should include lab number, lab title, date, student names, and the Report Grading Rubric.

Objectives

- Describe what the main aims of a particular exercise are.
- Use bullets.
- Must be brief. No more than a couple of lines per bullet.

Introduction/Theory/Procedure Summary

- This section will usually be around 1-1.5 pages long.
- Describe/elaborate on the points mentioned in objective section.
 - Why is a particular lab exercise important?
 - Why do we need to study a particular concept/law or device and related results etc.?
 - What is the theory behind phenomenon(s) that you encountered during the lab? For instance, if you did a lab on PID controller, then write about the theory behind it. Be resourceful, you can use internet/books whatever you like to come up with a coherent write-up.
 - Using graphs/diagrams is always a very good idea to put forth your views.
- Tie theory in with a brief summary of the lab procedure.
- Do not copy and paste the steps.

Analysis/Discussion

- The most important part of the report.
- Present your results and draw appropriate conclusions. This involves deep understanding of the theory. You have to combine theoretical knowledge and practical results in this section.

- Student should be able to relate observed events in the lab with the theory and vice-versa.

Problems Encountered

- Write about the *relevant* problems you encountered in lab such as unexpected results, etc.
- Provide the route taken to resolve or avoid the problems.

Conclusion

- In summary, write what the main lessons of the lab were
- Reflect on how the devices and circuits might be helpful in future projects.

Language/Format

- It is important that the report is very professionally written.
- Use same “style”; for instance, don’t mix active and passive voice in same report. Be consistent.
- Use formal words; avoid using first person pronouns (I, we, us etc.)
- Grammar/spellings and speech patterns are very important.
- Include figures whenever they are needed. Make sure you format them before you put on a word file. Simply using “print screen” to copy paste figures is a bad way of doing it.
- Figures/tables must have figure or table number/title/caption (all at the bottom of the figure/table), figures/tables and captions etc. must be center justified.
- Use 11pt Times New Roman font with 1 line spacing.
- Must have a cover page which will have names/date of the lab (not the date of report), and course name/section number in the middle of the cover page.
- Each of the sections will be graded based on following:
 - Grammar/Spellings/Good speech patterns.
 - Format.
 - Figures and tables.
- Lab reports are due at the START of the session.
- Have your lab reports ready before you walk in.
- Do not start writing reports just a day before it’s due. It is easy to figure out the amount of effort put into it.

Report Grading Rubric	Maximum Points	Points Graded
Pre-Lab: (20 points)	20	
Report Formatting: (10 points) <i>Correct Format of title page, page numbers, correct page justification, Times New Roman font, 1-inch margins, captions for figures and tables</i>	10	
Lab Report: (60 points) <ul style="list-style-type: none"> Objectives, Introduction/Theory/Procedure Analysis/Discussion Conclusion 	25 25 10	
Basic Writing Expectations: (10 points) <i>Mechanics, Grammar, spelling, punctuation, Correct choice of verb tenses, good speech patterns</i>	10	
Total:	100	